Qualitative Study Protocol

Intergenerational Professional Development and Learning of Teachers: A Mixed Methods Study

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Abstract

Schools, as in the case of other organizations, face complex challenges due to generational phenomena. In addition to an increasingly aging teaching workforce, schools are becoming more age-diverse, with coexisting multiple generations. Two consequences of this situation are the declining availability of relevant and critical knowledge for schools as teachers retire and the difficulties associated with maintaining professional relationships among teachers of different generations. These challenges have highlighted the significance of understanding the relevance of generations of teachers and identifying ways to build on generational diversity. Specifically, intergenerational collaboration and learning are needed to meet these challenges. Accordingly, this study aims to (1) examine generational diversity among teachers, (2) inquire into their interactions and the learning processes accompanying collaborative experiences in professional development, and (3) explore how these experiences and processes can enhance professional learning and practice. To this end, an exploratory mixed methods research project is conducted, comprising a multiphase design with two exploratory sequential studies (QUAL→quan). The participants are a sample of beginner, veteran, and retired teachers from Spain's publicly funded schools. In the qualitative strands of the study, data collection techniques comprise focus groups and semi-structured in-depth interviews followed by thematic analysis. In the quantitative strands, questionnaires (a multidimensional scale and a survey experiment) are the major data sources, which are subjected to descriptive and inferential statistical (factor and conjoint) analyses. The focus is primarily on the qualitative strands.

Keywords

mixed methods research, multiphase design, integration, teacher development, generations

Introduction

Evidence shows that schools that provide high-quality education typically have a culture of learning embraced by both students and teachers (Haiyan et al., 2017; Preston et al., 2017). As highlighted by Johnson and the Project on the Next Generation of Teachers (2004), it requires an integrated professional culture, that is, a reciprocal professional exchange between more and less experienced teachers, mutual support, shared responsibility, and extended professional development. It is quite unlike veteran- or novice-oriented cultures, which distance or separate teachers. In contrast, integrated cultures welcome teachers with diverse levels of expertise and other relevant differences and try to exploit this diversity.

Integrated culture in schools is facilitated by the progressive aging of the teaching staff—the average age of teachers has increased considerably, especially in Western countries (Organization for Economic Co-operation and

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Development [OECD], 2014). A recent report by the European Commission mentions the aging of teachers among the main challenges of European education systems (European Commission/European Education and Culture Executive Agency [European Commission/EACEA/Eurydice, 2015, pp. 9, 21). This phenomenon coexists with another related condition that is likely to affect the culture of integration in schools: increasing generational diversity. Although age distribution varies among countries, in 2019, teachers under the age of 30 generally accounted for a relatively smaller proportion of the entire teaching force (from 12% in primary education to 8% in upper secondary education), more than half were 30–49 years old, and a significant proportion were at least 50 years old (from 33% in primary education to 40% in upper secondary education) (OECD, 2021). Additionally, the number of new teachers has been growing in some countries. Although most are young, a significant proportion are older professionals who have changed careers (Ingersoll et al., 2021). Therefore, schools tend to be more diverse in terms of the age and experience of their teachers, thus giving rise to multigenerational workplaces (Abrams & von Frank, 2014; Edge, 2014).

Such conditions pose two major and complex challenges to schools. The first pertains to the loss of knowledge, skills, values, or experiences. As highly relevant and specific aspects to the organization, these are difficult to replace, and thus, should be shared among colleagues (even though some knowledge and skills may become obsolete) (Sandborn & Williams, 2016). The second challenge relates to the increasing age diversity, which can lead to uncomfortable interactions or conflicts among professionals (Ho & Yeung, 2021). Addressing both challenges requires sharing and developing knowledge together and establishing relationships that favor cooperation. This situation may enable schools to become both multigenerational and intergenerational: that is, organizations in which people from different generations not only relate to each other but are also involved in and collaborate on activities with common goals, perceiving their differences as beneficial and mutually influencing each other (Villar, 2007).

Despite the significance of these aspects for schools and teachers, they remain mostly overlooked in the literature. Numerous studies have characterized teachers at a specific stage of their professional career, particularly beginner teachers (Avalos, 2016), veterans (Carrillo & Flores, 2018), and retired teachers (Shlomo & Oplatka, 2020). Studies have also compared teachers at various stages of their professional careers (Richardson & Watt, 2018). However, a few studies have adopted a generational perspective (Edge, 2014; Forde & McMahon, 2019). This ambiguous concept (i.e., generation) has been frequently used to reference a group of people with similar ages and shared experiences (under specific circumstances) that provide them with some degree of homogeneity: identifiable in characteristics such as knowledge, beliefs, values, attitudes, or ways of life (and even awareness of this homogeneity) (Purhonen, 2016; Scherger, 2012).

A lack of generational connection among teachers is a potential obstacle to building a learning culture, which has been defined as "a set of shared beliefs, values and attitudes favourable to learning" (OECD, 2010, p. 25). However, teachers from different generations have divergent experiences (beyond those strictly linked to their career paths) and beliefs, values, and attitudes associated with them. Therefore, conditions must be introduced to enable this diversity to actually contribute to developing such a culture rather than hindering it.

Among the studies that have adopted a generational perspective, we can differentiate two trends. Some studies address particularities attributable to the connection of teachers to a certain generation (Lovely, 2012), such as those that characterize certain generational groups of teachers (Stone-Johnson, 2017). Others analyze the relationships between teachers of various generations (Abrams & von Frank, 2014), especially those that are formed to enable teachers' mutual learning (Brücknerová & Novotný, 2017). The present study continues in this line of research, although it more broadly examines both groups of teachers and the relationships between them. More specifically, three contributions can be highlighted in this study:

- As previously indicated, being linked to a generation provides access to not only certain types of knowledge but also the beliefs, values, or attitudes associated with shared lived experiences; therefore, this study focuses on understanding the so-called teachers' "professional dispositions" (Bair, 2017; O'Neill et al., 2014). They can be defined as teachers' orientations toward their profession, which are especially affected by their beliefs, values, and attitudes. Evidence indicates that generational characteristics may affect these professional orientations (Stone-Johnson, 2017). However, the study focuses not only on generational differences in this regard but also on generational similarities.
- The study focuses not only on learning based on transfer or transmission but also on learning based on transformative learning (Kennedy, 2014).
- Finally, it focuses not only on the potential contribution of teachers from the older generations to those from younger generations but also the other way around, which has been mostly overlooked in the literature (Augustiniene & Ciuciulkiene, 2013).

Objectives

The present study has the following objectives:

1. To characterize early career young teachers, veteran mature teachers, and retired older teachers (hereinafter, ECTs, VTs, and RTs, respectively) as generationally different groups (including in this characterization not only the dissimilarities between them but also their similarities, along with their interactions).

2. To explore the interactions and actions that occur in the course of professional collaborations in which members of the aforementioned groups participate (including the changes that occur as a result of those experiences).
3. To assess the expected and observed impacts of such experiences, both individual and collective (including at the school level).

To this end, we aim to answer the following research questions:

— What generational differences relevant to professional performance and learning (particularly in their professional dispositions) can be identified between ECTs, VTs, and RTs? What are the relevant similarities between them?
— What are the characteristics of professional development experiences when interacting and, especially, collaborating with teachers with generational differences?
— What is the contribution of these collaborative development experiences to the professional learning and teaching of these groups of teachers?

Explanation and Justification of the Method

Study Design

This research project adopts a mixed methodology combining qualitative and quantitative components (Johnson et al., 2007). Both types of components are used to address all the aforementioned research questions (Sammons & Davis, 2017). Moreover, a multi-method approach is adopted by employing different qualitative and quantitative methods (Greene, 2015). In this approach, various components (and methods) are organized into a multiphase design, characterized as a set of sequentially and often recursively connected qualitative, quantitative, or mixed studies, each of which is based on the results of another to address a set of research questions interconnected by common goals (Creamer, 2018; Creswell & Plano Clark, 2011; 2018; Fetters et al., 2013). Three aspects of this design, identified by Creswell and Plano Clark (2011), have been especially relevant for its choice. This design is ideal when targeting common or closely related objectives that would otherwise be difficult to achieve through a single study or isolated studies. It is also convenient when conducting exploratory, and even emergent, research and when new research questions and conjectures may arise. Finally, a multiphase design is suitable when a consistent theoretical perspective is available to provide a framework to guide the various phases of the project.

The study design consists of two phases (see Figure 1): the first focuses on generational diversity and the second on intergenerational collaboration for professional development and learning. The two phases correspond to two studies (identified as Studies 1 and 2, respectively). Both have a sequential exploratory design (QUAL→quan). Each study comprises a qualitative sub-study followed by a quantitative sub-study (identified, respectively, as A and B, preceded by the number corresponding to the largest study that integrates them, such as sub-study 1. A). This type of design constitutes a fundamental category in the context of this methodology (Creswell, 2015) and ensures integration (Fetters et al., 2013). Three features of these designs are highlighted to characterize the proposed research: a) they have an exploratory purpose, b) they foresee a sequential course of stages, and c) they usually prioritize qualitative data (Creswell & Plano Clark, 2018). To fulfill such an exploratory function, qualitative data are first collected and analyzed to inform the collection and analysis of quantitative data. More specifically, a common variant of this type of design is adopted, consisting of using a qualitative sub-study with a purposeful sample to inform the design of a quantitative data collection instrument (in this case, a questionnaire) before administering it to a larger representative sample (Creswell & Plano Clark, 2018).

Participants, Sampling, and Recruitment

The ECTs, VTs, and RTs participate in the study in balanced numbers among the three categories. All participants meet the following inclusion criteria (see Table 1):

The participants are selected via purposeful sampling in qualitative sub-studies, combined with probability cluster sampling in quantitative sub-studies to increase the generalization of the findings (Creamer, 2018). This sample combination conforms to parallel (sequential) sampling (Onwuegbuzie & Collins, 2007), as suggested for studies with a sequential exploratory design (Creswell & Plano Clark, 2018). In this study, the sample selected for sub-study 1. A (purposeful) differs from that of sub-study 1. B (probabilistic). Moreover, even though they derive from the same populations, the sub-study 2. A (purposeful) sample also differs from that of sub-study 2. B (probabilistic). Two other sampling strategies are added to this general pattern that affect only the qualitative sub-studies (1. A and 2. A): a) to achieve a higher degree of integration, the greatest possible degree of coincidence between the samples of both studies is pursued, so it can be said that the so-called "identical sampling" is used; b) to expand the available data by increasing the number of participants, group discussions are held with a higher number of participants, from which a subset is selected to conduct the interviews, similar to the so-called "nested sampling" (Onwuegbuzie & Collins, 2007) (see section on data collection).

Recruitment for the qualitative component is conducted through a national union and various associations of retired teachers who identified potential participants, in addition to utilizing in-person networks and social media. Potential participants are invited by email, prioritizing recruitment with

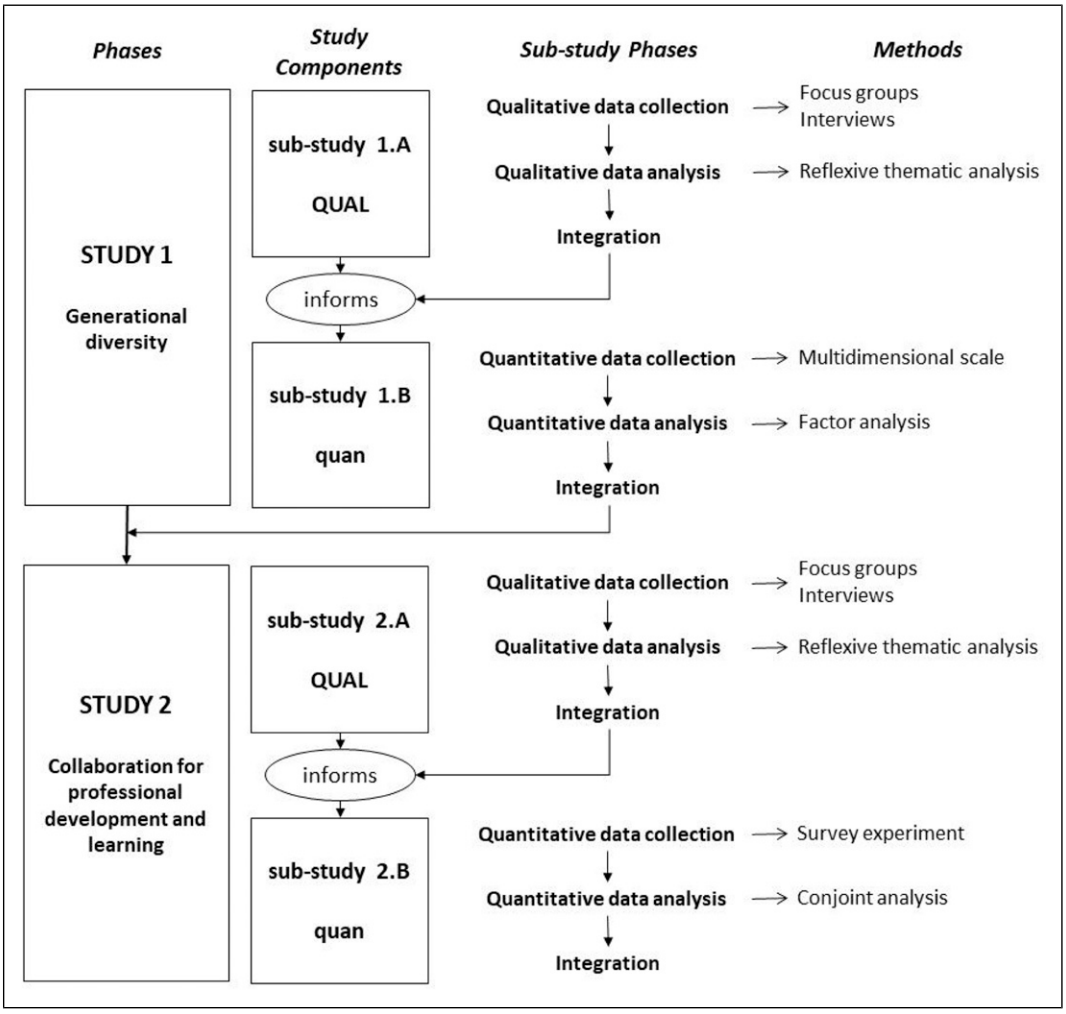

Figure 1. Diagram of research activities.

Table 1. Inclusion Criteria.

	Early career teachers	Veteran teachers	Retired teachers
Age and teaching experience (years)	Born after 1990 with no more than six academic years of (uninterrupted or interrupted) work experience in schools	Teachers 50 years old or older with 10 academic years or more of work experience in schools	Retirees by forced or voluntary retirement
Educational stage	Early childhood education (2nd cycle), primary education, or secondary education		
Type of school	Publicly funded schools		

the widest possible territorial range. Based on the references proposed by Onwuegbuzie and Collins (2007), a minimum of 15–20 participants are required for each teacher category in each of the sub-studies (therefore, a total of 45–60 teachers),

For the quantitative sub-studies, participants are recruited through the aforementioned national union. The samples are proportionally balanced according to the following criteria: geographical distribution, type of school, educational level, employment status, and gender. Their size is determined according to the results from the preceding qualitative sub-studies and, in particular, the specific characteristics of the resulting instruments (Creswell & Plano Clark, 2018).

Data collection and Management

In both qualitative sub-studies (1. A and 2. A), the following data collection techniques are used sequentially:

(a) Semi-structured focus groups, which are suitable for data collection centered on human and social

phenomena considered from the perspective of people who have experienced them, are employed; information is gathered from the interactions among participants, during which multiple viewpoints usually emerge on the matter in question (Stewart & Shamdasani, 2015). This technique has been used mainly for exploratory purposes, when knowledge of the phenomenon of interest is limited (Stewart & Shamdasani, 2015). Furthermore, an attempt is made to balance and complement the homogeneity and heterogeneity of the groups in the characteristics of interest to simultaneously favor the expression of these viewpoints and the emergence of differences between them (Ruiz, 2017). Therefore, the groups are divided based on two determining characteristics (Hennink, 2014): 1) the age and teaching experience of the participants (Day et al., 2006) and 2) the educational stage in which the profession is exercised. There are groups consisting of teachers of a specific age and teaching experience and mixed groups that combine ECTs, VTs, and RTs. These groups are homogeneous in terms of educational stage or mixed, combining teachers from different educational stages, such as primary or secondary education.

(b) Semi-structured in-depth interviews, which follow the use of focus groups with an exploratory nature, are particularly suitable for accessing, in a focused, broad, and detailed manner, human and social phenomena, albeit in this case from the perspective of each of those who have experienced such phenomena (Patton, 2015). These interviews provide access not only to their perceptions and beliefs about such phenomena but also to their emotional experiences, by incorporating characteristics such as their flexibility to adjust to the interlocutor or the establishment of a more personal relationship (Hargreaves, 2005). The number of participants interviewed has been balanced according to age and teaching experience (ECTs, VTs, and RTs), and the educational stage taught, for example, primary or secondary education.

Both techniques are applied following the protocols and guidelines developed jointly by the research team, which are piloted and subsequently improved. Mainly due to the COVID-19 pandemic, the focus groups and interviews are conducted via video conference; thus, the peculiarities associated with video conferencing are considered (Salmons, 2022). The interviews are recorded (with the interviewees' consent), and the recordings are transcribed verbatim and in full by a professional transcription service provider. Thereafter, the transcripts are reviewed by members of the research team.

In the first qualitative sub-study (1. A), the aforementioned techniques are employed to collect data on the professional dispositions or orientations of the ECTs, VTs, and RTs, primarily to identify the relevant aspects that differentiate teachers generationally and those that approximate them. In contrast, the second qualitative sub-study (2. A) gathers data on 1) experiences of informal and formal collaborations among the participating teachers and 2) the changes to their professional dispositions resulting from their involvement in these experiences.

In the quantitative sub-studies, two electronic questionnaires are used as the main data collection technique for two reasons. First, the instrument helps to specify the object of study in the corresponding qualitative sub-study, defining the variable(s) to be measured and even clarifying the questions that will be asked to measure this object. Second, data collection via the instrument helps to generalize, and even expand on, the results obtained from the qualitative sub-study (Creswell & Plano Clark, 2018). The differences between the sub-studies correspond to those previously identified between one qualitative sub-study and another. Thus, sub-study 1. B develops a multidimensional scale (DeVellis & Thorpe, 2022) to measure the professional dispositions of teachers and their dimensions, and determine similarities and differences among the ECTs, VTs, and RTs. In turn, sub-study 2. B is focused on collecting data to accurately identify and systematize the relevant dimensions of collaboration experiences of the ECTs, VTs, and RTs. For this purpose, a survey experiment is conducted using a questionnaire with questions referring to vignettes with varying dimensions, each of which represents an experimental treatment (Auspurg & Hinz, 2015).

Finally, the collected data are sequentially integrated through the so-called "construction": the results from the data collection in the qualitative sub-studies inform the approach adopted in the data collection of the corresponding quantitative sub-studies (Fetters et al., 2013). The data and results from qualitative sub-studies 1. A and 2. A are the basic reference for developing these instruments corresponding to sub-studies 1. B and 2. B (albeit also drawing on the literature and other instruments available). For example, the items of the instruments used in these sub-studies are based on the data gathered in the respective qualitative sub-studies.

Data Analysis

The data collected through interviews and focus groups are examined using reflective thematic analysis (Braun & Clarke, 2021). This reflexivity approach emphasizes the researchers' data interpretation, guided by research questions and the theoretical direction that they follow to answer them (Terry & Hayfield, 2021). It is used in combination with the method of constant comparison analysis, whose reflexive character has also been highlighted (Tracy, 2020). Following this method, data, codes, and themes are cyclically compared as the research progresses, and corresponding improvements are introduced to the analysis (Leech & Onwuegbuzie, 2008; Saldana, 2021). The flexibility allowed by both methods is the main reason for their adoption (Braun & Clarke, 2006; Leech & Onwuegbuzie, 2008).

Drawing on the model proposed by Braun and Clarke (2006), the analysis comprises a set of recursive phases that tend to mutually overlap, thanks to the process of reflection (see also Nowell et al., 2017). This set of phases is then applied sequentially: first to the data gathered through the focus groups, and then to those gathered through the interviews. The phases are as follows (Braun & Clarke, 2006; 2012; see also Terry & Hayfield, 2021):

1. Initially, the members of the research team familiarize themselves with the data, perform an analytical and interrogative reading of the transcripts (combined with viewing the recordings whenever convenient), take incidental notes on aspects identified as being potentially relevant to their codification, and share and discuss the first relevant insights.
2. The analysis continues with the generation of a set of codes that are applied to the data. Two criteria mainly guide this phase: first, coding aims to continuously combine and balance data-driven analysis with a theory-driven analysis (Braun & Clarke, 2012, p. 58). Second, the salience criterion proposed by Buetow (2010) is applied so that not only codes identifiable as recurrent are the object of attention but also—and particularly—those identifiable as important (mainly because of their potential to develop understanding), even if they are not recurrent. The coding is collaborative (Braun & Clarke, 2022), based on conversations, discussions, and joint reflections conducted in scheduled ad hoc meetings with frequent contact. The process is supported by ATLAS. ti 22 software. The set of identified codes ultimately becomes a codebook (DeCuir-Gunby et al., 2011).
3. The analysis continues with the search for and generation of themes, understood mainly as a process of generation or construction (rather than an identification process) (Braun & Clarke, 2012, p. 12). Essentially, the codes, together with the data that represent them, are reviewed to identify significant shared features that allow them to be clustered around potential central organizing concepts, with their associated ideas or subthemes. Maps and tables are used from the outset to comprehensively represent the set of potential themes and their relationships that fundamentally guide the analysis process.
4. The potential themes are reviewed by checking their quality and comparing them with the data to determine their adequacy. Two strategies are applied to the recursive review process. The first, employed at the beginning of this phase, compares the themes with different datasets (in particular, coded data gathered in different periods and data from specific groups of participants). The second compares the themes previously reviewed with all the data. The review is deemed completed after verifying that introducing substantial changes to the set of themes is not necessary.
5. The themes soon begin to receive names and definitions, although these are provisional and may undergo modifications. This process helps keep the names informative and concise and ultimately provides their definitions with a clear object, scope, and purpose. These names and definitions are both associated with quotes that are particularly illustrative of the themes that help to clarify them.

Regarding the quantitative data, sub-study 1. B conducts, in addition to descriptive statistical analysis, the application of exploratory and confirmatory factor analysis (Dimitrov, 2012). Sub-study 2. B employs conjoint analysis, which is particularly suitable for the type of questionnaire chosen (i.e., a survey experiment) (Rao, 2014). In both cases, the analysis is conducted by means of the statistical software R.

Ethics

This research project was reviewed and approved by the Ethics Commission of the University of Murcia (approval identification code: 2087/2018). This body also approved the participant information sheet and the informed consent form. Both documents incorporated the main guidelines on the ethical aspects of the project, which conform to standard ones (see, e.g.,). As these documents were meant for the participants, the information they contained complied with the demands of rigor and comprehensibility in a balanced way (Ennis & Wykes, 2016).

The participant information sheet contained information on the research project and details regarding participation. More specifically, it comprised information on the following aspects: (a) general characteristics of the project (e.g., objectives, design and data collection methods, expected benefits, and research team); (b) mitigation of risks and potential damages for participating in the project, accompanied by the corresponding rationale; (c) participants' rights and other guarantees (e.g., the right to access, rectify, or cancel the information provided; the guarantee of confidentiality, privacy, and anonymity, and strategies to address them, such as anonymization and dissociation; the right to revoke participation or the guarantee of access to the research results); and (d) proposed treatment of the data provided, including information identification (e.g., data storage).

The informed consent form allowed the participants to express their consent to participate in a research project. In this study, each participant individually provided their informed consent to participate through a written response in a brief electronic form available on a Web site where this document and the participant information sheet were available until the end of the research project. After submitting the informed consent, participants completed another brief electronic demographic questionnaire about their age, gender,

qualifications, employment status, and years of experience, among other variables.

Verbal consent was also obtained every time a participant was involved in any research activity (focus groups and interviews), after being reminded of the content of the general information applied to the specific activity (including, e.g., the request for permission to record the focus group or the interview and its justification and subsequent transcription of the recording). Participants had the opportunity to query and request additional information, both before communicating their initial informed consent and after starting their participation in each data collection activity.

Rigor

Three approaches are applied to determine the quality of mixed methods research: 1) the same general criteria that are applicable to all types of research, 2) criteria specific to each type of study (quantitative and qualitative); and 3) criteria adapted to the specificities of mixed methods research, which recognize both the particularity of quantitative and qualitative research and the specificity of combining both types of research in the same study (Halcomb, 2019). For the research project presented here, an eclectic position—combining comprehensive criteria that address the uniqueness of mixed methods research and the specific criteria of qualitative and quantitative research—is adopted.

For the mixed methods research, the criteria proposed by Bryman (2014) is adopted, which is consistent with those most frequently identified in the literature (Fàbregues & Molina-Azorín, 2017). The criteria are implemented by clarifying the connections between the use of mixed methods research and research question, providing a rationale for the use of this type of research, clearly presenting the research design and its justification, competently implementing quantitative and qualitative methods and applying their respective quality criteria, highlighting the integration between its quantitative and qualitative components, and transparently documenting the research process and the findings.

Regarding the specific criteria of the qualitative components, the principle of trustworthiness and the four criteria with which it has been associated—credibility, transferability, dependability, and confirmability—are adopted. These criteria have generated considerable consensus among scholars, and it is relatively common to refer to them to determine the quality of this type of study (Lincoln & Guba, 1985; Yadav, 2021). However, these criteria, which aim to translate the criteria ordinarily applied in conventional quantitative research (Guba, 1981), have been associated with a positivist orientation. Nevertheless, their use can be combined with a clearly qualitative orientation with which reflective thematic analysis is associated (Nowell et al., 2017). Braun and Clarke (2006, 2022) proposed a checklist to help determine the quality of not only studies in which reflective thematic analysis has been used but also other qualitative studies. This list was considered adequate to determine the application of such criteria (Walters, 2016). In our study, these and other guidelines are applied with strategies especially suited to the approach adopted (Nowell et al., 2017), complemented with other, more widely used strategies (Creswell & Poth, 2018):

- Extending data collection over time, maintaining regular contact with the participants, and requesting their collaboration.
- Using multiple data sources, data collection methods, and different researchers and theoretical frames to gather corroborating evidence (triangulation).
- Collecting data and analyzing them until the saturation level is reached.
- Identifying and examining negative or controversial evidence, especially in the process of coding and generating and revising themes.
- Maintaining an audit trail of the entire process of preparing the set of codes and themes using ATLAS. ti software.
- Documenting in detail the process and the resulting reflections (e.g., through diagrams and narrative reports).
- Sharing and discussing information, experiences, and reflections (among the members of the research team) and documenting these exchanges (e.g., through recordings).
- Conducting member checking, especially regarding data collection instruments, the data collected (by returning the transcripts), and the initial results.

In the quantitative sub-studies, the application of rigorous measures begins with purging the data after identifying possible inconsistencies and deciding the treatment for the incomplete data. These quantitative sub-studies focus on applying measures to ensure the reliability and the internal, external, and construct validity of the results and limit measurement errors (Auspurg & Hinz, 2015; Dimitrov, 2012).

Conclusion

The complexity of the phenomena addressed in this study—which has been mostly overlooked in the literature—justifies the complexity of this research project and, in particular, the adoption of a mixed methodology to analyze them. Qualitative and quantitative research methods are integrated to improve our understanding (the breadth and depth) of these complex phenomena and their relationships (the so-called "complementarity rationale") (Creamer, 2018; Johnson et al., 2007; Plano Clark & Ivankova, 2016). Additionally, this understanding is reinforced by giving the said methodology two other associated uses: on the one hand, the results of one component inform the use of another, thus making it possible to draw more accurate and precise conclusions (the so-called "development rationale"); on the other, more valid

conclusions can be obtained by comparing the results of the two components (the so-called "triangulation rationale") (Creamer, 2018; Plano Clark & Ivankova, 2016). Mixed methods research is also justified in this exploratory study. In investigations of this nature, this methodology guides researchers facing discrepant results with respect to the research object (Lund, 2012). Giving prominence to qualitative components further reinforces the use of mixed methods research in this project (Hesse-Biber, 2010; Hesse-Biber et al., 2015).

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References

Abrams, J., & von Frank, V. (2014). *The multigenerational workplace: Communicate, collaborate, and create community.* Corwin.

Augustiniene, A., & Ciuciulkiene, N. (2013). Reverse mentoring as facilitating factor for the development of a beginning teacher's self-authorship process. *Social Sciences*, *81*(3), 73–84. https://doi.org/10.5755/j01.ss.81.3.5791

Auspurg, K., & Hinz, T. (2015). *Factorial survey experiments*. Sage.

Avalos, B. (2016). Learning from research on beginning teachers. In J. Loughran, & M. Hamilton (Eds.), *International handbook of teacher education* (vol 1, pp. 487-522). Springer. https://doi.org/10.1007/978-981-10-0366-0_13.

Bair, M. A. (2017). Identifying dispositions that matter: Reaching for consensus using a Delphi Study. *The Teacher Educator*, *52*(3), 222–234. https://doi.org/10.1080/08878730.2017.1315475

Berkovich, I., & Grinshtain, Y. (2021). A Review of rigor and ethics in qualitative educational administration, management, and leadership research articles published in 1999-2018. *Leadership and Policy in Schools*. Advance online publication. https://doi.org/10.1080/15700763.2021.1931349

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Braun, V., & Clarke, V. (2012). Thematic analysis. In H. Cooper, P. M. Camic, D. L. Long, A. T. Panter, D. Rindskopf, & K. J. Sher (Eds.), *APA handbook of research methods in psychology (Vol. 2). Research designs: Quantitative, qualitative, neuropsychological, and biological* (pp. 57–71). American Psychological Association. https://doi.org/10.1037/13620-004

Braun, V., & Clarke, V. (2021). Can I use TA? Should I use TA? Should I not use TA? Comparing reflexive thematic analysis and other pattern-based qualitative analytic approaches. *Counselling and Psychotherapy Research*, *21*(1), 37–47. https://doi.org/10.1002/capr.12360

Braun, V., & Clarke, V. (2022). *Thematic analysis: A practical guide*. Sage.

Brücknerová, K., & Novotný, P. (2017). Intergenerational learning among teachers: Overt and covert forms of continuing professional development. *Professional Development in Education*, *43*(3), 397–415. https://doi.org/10.1080/19415257.2016.1194876

Bryman, A. (2014). June 1989 and beyond: Julia Brannen's contribution to mixed methods research. *International Journal of Social Research Methodology*, *17*(2), 121–131. https://doi.org/10.1080/13645579.2014.892653

Buetow, S. (2010). Thematic analysis and its reconceptualization as 'saliency analysis'. *Journal of Health Services Research & Policy*, *15*(2), 123–125. https://doi.org/10.1258/jhsrp.2009.009081

Carrillo, C., & Flores, M. A. (2018). Veteran teachers' identity: What does the research literature tell us? *Cambridge Journal of Education*, *48*(5), 639–656. https://doi.org/10.1080/0305764X.2017.1394982

Creamer, E. G. (2018). *An introduction to fully integrated mixed methods research*. Sage.

Creswell, J. W. (2015). Revisiting mixed methods and advancing scientific practices. In S. Hesse-Biber, & R. B. Johnson (Eds.), *The Oxford handbook of multimethod and mixed methods research inquiry* (pp. 57–71). Oxford University Press. https://doi.org/10.1093/oxfordhb/9780199933624.013.39

Creswell, J. W., & Plano Clark, V. L. (2011). *Designing and conducting mixed methods research* (2nd ed.). Sage.

Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research* (3rd ed.). Sage.

Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). Sage.

Day, C., Stobart, G., Sammons, P., Kington, A., Gu, Q., Smees, R., & Mujtaba, T. (2006). *Variations in teachers' work, lives and effectiveness* (Research Report no. 743). Department for Education and Skills.

DeCuir-Gunby, J. T., Marshall, P. L., & McCulloch, A. W. (2011). Developing and using a codebook for the analysis of interview data: An example from a professional development research project. *Field Methods*, *23*(2), 136–155. https://doi.org/10.1177/1525822X10388468

DeVellis, R. F., & Thorpe, C. T. (2022). *Scale development: Theory and applications* (5th ed.). Sage.

Dimitrov, D. M. (2012). *Statistical methods for validation of assessment scale data in counseling and related fields*. Wiley.

Edge, K. (2014). A review of the empirical generations at work research: Implications for school leaders and future research. *School Leadership & Management*, *34*(2), 136–155. https://doi.org/10.1080/13632434.2013.869206

Ennis, L., & Wykes, W. (2016). Sense and readability: Participant information sheets for research studies. *British Journal of Psychiatry*, *208*(2), 189–194. https://doi.org/10.1192/bjp.bp.114.156687

European Commission/EACEA/Eurydice. (2015). *The teaching profession in europe: Practices, perceptions, and policies* (Eurydice Report). Publications Office of the European Union. https://op.europa.eu/en/publication-detail/-/publication/36bde79d-6351-489a-9986-d019efb2e72c.

Fàbregues, S., & Molina-Azorín, J. F. (2017). Addressing quality in mixed methods research: A review and recommendations for a future agenda. *Quality & Quantity*, *51*(6), 2847–2863. https://doi.org/10.1007/s11135-016-0449-4

Fetters, M. D., Curry, L. A., & Creswell, J. W. (2013). Achieving integration in mixed methods designs—principles and practices. *Health Services Research*, *48*(6pt2), 2134–2156. https://doi.org/10.1111/1475-6773.12117

Forde, C., & McMahon, M. (2019). *Teacher quality, professional learning and policy: Recognising, rewarding and developing teacher expertise*. Palgrave Macmillan. https://doi.org/10.1057/978-1-137-53654-9

Greene, J. C. (2015). Preserving distinctions within the multimethod and mixed methods research merger. In S. Hesse-Biber, & R. B. Johnson (Eds.), *The Oxford handbook of multimethod and mixed methods research inquiry* (pp. 606–615). Oxford University Press. https://doi.org/10.1093/oxfordhb/9780199933624.001.0001

Guba, E. G. (1981). Criteria for assessing the trustworthiness of naturalistic inquiries. *Educational Communication and Technology Journal*, *29*(2), 75–91. https://doi.org/10.1007/BF02766777

Haiyan, Q., Walker, A., & Xiaowei, Y. (2017). Building and leading a learning culture among teachers: A case study of a shanghai primary school. *Educational Management Administration & Leadership*, *45*(1), 101–122. https://doi.org/10.1177/1741143215623785

Halcomb, E. J. (2019). Appraising mixed methods research. In P. Liamputtong (Ed.), *Handbook of research methods in health social sciences* (pp. 1051–1067). Springer. https://doi.org/10.1007/978-981-10-5251-4_121

Hargreaves, A. (2005). Educational change takes ages: Life, career and generational factors in teachers' emotional responses to educational change. *Teaching and Teacher Education*, *21*(8), 967–983. https://doi.org/10.1016/j.tate.2005.06.007

Hennink, M. M. (2014). *Focus group discussions*. Oxford University Press.

Hesse-Biber, S. (2010). Qualitative approaches to mixed methods practice. *Qualitative Inquiry*, *16*(6), 455–468. https://doi.org/10.1177/1077800410364611

Hesse-Biber, S., Rodriguez, D., & Frost, N. A. (2015). A qualitatively driven approach to multimethod and mixed methods research. In S. Hesse-Biber, & R. B. Johnson (Eds.), *The Oxford handbook of multimethod and mixed methods research inquiry* (pp. 3–20). Oxford University Press. https://doi.org/10.1093/oxfordhb/9780199933624.001.0001

Ho, H. C., & Yeung, D. Y. (2021). Conflict between younger and older workers: An identity-based approach. *International Journal of Conflict Management*, *32*(1), 102–135. https://doi.org/10.1108/IJCMA-08-2019-0124

Ingersoll, R., Merrill, E., Stuckey, D., Collins, G., & Harrison, B. (2021). The demographic transformation of the teaching force in the United States. *Education Sciences*, *11*(5), 234. https://doi.org/10.3390/educsci11050234

Johnson, R. B., Onwuegbuzie, A. J., & Turner, L. A. (2007). Toward a definition of mixed methods research. *Journal of Mixed Methods Research*, *1*(2), 112–133. https://doi.org/10.1177/1558689806298224

Johnson, S. M., , The project on the Next generation of teachersBirkeland, S. E., Donaldson, M. L., Kardos, S. M., Kauffman, D., Liu, E., & Peske, H. G. (2004). *Finders and keepers: Helping new teachers survive and thrive in our schools*. Jossey-Bass.

Kennedy, A. (2014). Understanding continuing professional development: The need for theory to impact on policy and practice. *Professional Development in Education*, *40*(5), 688–697. https://doi.org/10.1080/19415257.2014.955122

Leech, N. L., & Onwuegbuzie, A. J. (2008). Qualitative data analysis: A compendium of techniques and a framework for selection for school psychology research and beyond. *School Psychology Quarterly*, *23*(4), 587–604. https://doi.org/10.1037/1045-3830.23.4.587

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Sage.

Lovely, S. (2012). Boomers and millennials: Vive la difference. *The Learning Professional*, *33*(5), 56–59. https://learningforward.org/wp-content/uploads/2016/12/lovely335.pdf

Lund, T. (2012). Combining qualitative and quantitative approaches: Some arguments for mixed methods research. *Scandinavian Journal of Educational Research*, *56*(2), 155–165. https://doi.org/10.1080/00313831.2011.568674

Nowell, L. S., Norris, J. M., White, D. E., & Moules, N. J. (2017). Thematic analysis: Striving to meet the trustworthiness criteria. *International Journal of Qualitative Methods*, *16*(1), 1–13. https://doi.org/10.1177/1609406917733847

OECD (2010). *Innovative workplaces: Making better use of skills within organisations*. OECD Publishing. https://doi.org/10.1787/9789264095687-en

OECD. (2014). *How old are the teachers?* (Education Indicators in Focus, no. 20). OECD Publishing. https://doi.org/10.1787/5jz76b5dhsnx-en.

OECD (2021). *Education at a glance 2021: OECD indicators*. OECD Publishing. https://doi.org/10.1787/b35a14e5-en

O'Neill, J., Hansen, S., & Lewis, E. (2014). *Dispositions to teach: Review and synthesis of current components and applications, and evidence of impact* (Report to the Schooling Policy Group,

Ministry of Education). Massey University, Institute of Education. https://www.educationcounts.govt.nz/__data/assets/pdf_file/0010/195067/Dispositions-to-teach-review-and-synthesis-of-current-components-and-applications,-and-evidence-of-impact.pdf.

Onwuegbuzie, A. J., & Collins, K. M. (2007). A typology of mixed methods sampling designs in social science research. *The Qualitative Report*, *12*(2), 281–316. https://nsuworks.nova.edu/tqr/vol12/iss2/9/

Patton, M. Q. (2015). *Qualitative research & evaluation methods: Integrating theory and practice* (4th ed.). Sage.

Plano Clark, V. L, & Ivankova, N. V. (2016). *Mixed methods research: A guide to the field*. Sage.

Preston, C., Goldring, E., Guthrie, J. E., Ramsey, R., & Huff, J. (2017). Conceptualizing essential components of effective high schools. *Leadership and Policy in Schools*, *16*(4), 525–562. https://doi.org/10.1080/15700763.2016.1205198

Purhonen, S. (2016). Zeitgeist, identity and politics: The modern meaning of the concept of generation. In I. Goodson, A. Antikainen, P. Sikes, & M. Andrews (Eds.), *The Routledge international handbook on narrative and life history* (pp. 177–188). Routledge. https://doi.org/10.4324/9781315768199

Rao, V. R. (2014). *Applied conjoint analysis*. Springer. https://doi.org/10.1007/978-3-540-87753-0

Richardson, P. W., & Watt, H. M. G. (2018). Teacher professional identity and career motivation: A lifespan perspective. In P. Schutz, J. Hong, & D. Cross Francis (Eds.), *Research on teacher identity* (pp. 37–48). Springer. https://doi.org/10.1007/978-3-319-93836-3_4

Ruiz, J. R. (2017). Collective production of discourse: An approach based on the qualitative school of Madrid. In R. S. Barbour, & D. L. Morgan (Eds.), *A new era in focus group: Challenges, innovation and practice* (pp. 277–300). Palgrave Macmillan. https://doi.org/10.1057/978-1-137-58614-8_13

Saldana, J. (2021). *The coding manual for qualitative researchers* (4th ed.). Sage.

Salmons, J. E. (2022). *Doing qualitative research online* (2nd ed.). Sage.

Sammons, P., & Davis, S. (2017). Mixed methods approaches and their application in educational research. In D. Wyse, N. Selwyn, E. Smith, & L. E. Suter (Eds.), *The BERA/SAGE handbook of educational research* (pp. 477–504). Sage. https://dx.doi.org/10.4135/9781473983953.n24

Sandborn, P., & Williams, M. K. (2016). Critical skills loss—the effect of the disappearance of non-replaceable workforce. In A.-S. Antoniou, R. J. Burke, & C. L. Cooper (Eds.), *The aging workforce handbook* (pp. 269–298). Emerald. https://doi.org/10.1108/978-1-78635-448-820161011

Scherger, S. (2012). *Concepts of generation and their empirical application: From social formations to narratives—A critical appraisal and some suggestions* (CRESC Working Paper No. 117). http://hummedia.manchester.ac.uk/institutes/cresc/workingpapers/wp117.pdf

Shlomo, H., & Oplatka, I. (2020). "I am still a teacher": The place of the teaching career in the process of retirement adjustment. *Educational studies*. Advance online publication. https://doi.org/10.1080/03055698.2020.1837614

Stewart, D. W., & Shamdasani, P. N. (2015). *Focus groups: Theory and practice*. Sage.

Stone-Johnson, C. (2017). Autonomy, professionalism, and the role of generation in professional capital. *Journal of Professional Capital and Community*, *2*(1), 18–35. https://doi.org/10.1108/JPCC-10-2016-0024

Terry, G., & Hayfield, N. (2021). *Essentials of thematic analysis*. American Psychological Association.

Tracy, S. J. (2020). *Qualitative research methods: Collecting evidence, crafting analysis, communicating impact* (2nd ed.). Wiley.

Villar, F. (2007). Intergenerational or multigenerational? A question of nuance. *Journal of Intergenerational Relationships*, *5*(1), 115–117. https://doi.org/10.1300/J194v05n01_11

Walters, T. (2016). Using thematic analysis in tourism research. *Tourism Analysis*, *21*(1), 107–116. https://doi.org/10.3727/108354216X14537459509017

Yadav, D. (2021). Criteria for good qualitative research: A comprehensive review. *Asia-pacific education researcher*. Advance online publication. https://doi.org/10.1007/s40299-021-00619-0