Edited by
Michael C. Gizzi, Stefan Rädiker

The Practice of Qualitative Data Analysis

Research Examples Using MAXQDA

MAXQDA PRESS

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Using MAXQDA for Bibliographic Documentary Analysis: Combining Automatic and Manual Procedures Within a Literature Review

Antoni Casasempere-Satorres, Marisa Vercher-Ferrándiz

Abstract

Bibliographic Documentary Analysis is an advanced type of systematic literature review that uses the research method of documentary analysis to create a data analysis process that allows us to improve the performance of literature reviews, developing them in less time or in a more accurate way. Using MAXDQA for Bibliographic Documentary Analysis is very helpful, because it offers tools to combine automatic and manual procedures within the analysis process.

In this chapter, we offer a detailed explanation of the analysis process we use in our bibliographic tasks. This analysis process is suitable for setting the research purpose, developing a conceptual framework, and even can improve the theoretical dialogue or discussion about existing research.

We introduce a project about a literature review on *financial literacy in early childhood.* Using MAXQDA, we were able to analyze 129 documents in less than a week by combination of automatic and manual procedures. Among other tools we used Lexical Search and Word Combinations to identify literature concepts. The goal was to build a conceptual framework and write an article describing the conceptual framework.

Key MAXQDA features covered

- ✓ Lexical Search
- ✓ Autocoding Search Hits
- ✓ Memos
- ✓ Word Combinations
- ✓ Paraphrasing
- ✓ Coding

1 Introduction

"In today's world, the true exercise of freedom and sovereignty is in knowledge; science is needed to lower the limits of ignorance and increase the ability to solve problems" (Ruiz Ramírez, 2010).

The significant research production of recent times and deadlines are added problems to research activity. On the one hand, a systematic review of the literature is necessary to distinguish which papers are of sufficient quality to work as a bibliography since, currently, we can lose ourselves in an ocean of information in which we find from irrelevant information to essential information (Guirao Goris, 2015). On the other hand, we require systematic processes and supporting computer tools to be efficient in reviewing and apprehending the main ideas of the texts to be analyzed in tight deadlines.

This chapter presents a case study of a systematic literature review performed with a significant number of documents. We used MAXQDA's Word Combinations and Paraphrases, among other analytic tools, to conduct a Bibliographic Documentary Analysis. The process we used was a very efficient way to explore a huge amount of literature and build a conceptual framework for future field work and data analysis and support the writing of a paper.

The analytic process was performed with 129 documents (59 reports, 35 papers, 17 book chapters, 12 web pages and 6 laws) by two members of a research team to answer the research question: *Which dimensions, aspects, and properties are discussed regarding the concept of money in a context of financial literacy in the literature that deals with early childhood?*

After the selection process for articles, books, and other documents, the mission was to review the selected literature. With a large amount of literature to review and short time frame to deliver the final report in five days, we required a strategy to optimize the work for the desired result. Conducting Bibliographic Documentary Analysis with MAXQDA provides just such a strategy and a systematic process to facilitate the necessary tasks of analyzing documents by applying documentary analysis strategies to literature documents. Using MAXQDA, we followed this sequence:

1. Formulate a one-sentence research purpose and derive important concepts from it.
2. Search for relevant literature in databases using the derived concepts as search terms.
3. Import the search hits in a reference manager, such as Mendeley, including the full-text PDF files.
4. Export the literature data in RIS format and import references together with full-texts in MAXQDA.
5. Read the abstracts of the files in order to organize the files in different document groups regarding their main topics and discard documents that do not fit exactly the research purpose.
6. Explore the literature by:
   a) Using "Lexical search" with the concept(s) created beforehand to identify relevant sections.
   b) Checking each search hit, including its context, and code and paraphrase important ones.

7. Describe the concept's attributes and properties by:
   a) Using Word Combinations function to identify additional sections in the literature, that have not been captured with lexical search but are important for the research topic and purpose in order to build the conceptual framework.
   b) Checking each search hit, including its context, and code and paraphrase important ones. Manual coding helps to develop the conceptual framework, and the paraphrases help to develop the future report or paper.
8. When reaching a sufficient degree of saturation, use "Categorize Paraphrases" to order paraphrases in the way they should be inserted in the report or paper, and the developed code system is used to elaborate the conceptual framework.
9. Bring it all together in the written literature review article. For this purpose, during steps 6–8, an additional code system reflecting the structure of the review article can be used to capture appropriate passages to support writing the review.

Step 6a and step 7a are led by word-based auto-routines; the search hits are handled and evaluated manually; some of them are auto-coded to establish thematic contexts for further exploration. The process described above is performed in three main phases in the research: state the research concern, build the conceptual framework, and perform the discussion or theoretical dialogue. In completing the literature review, the researcher should know in which of these three stages he or she is working. When using manual coding, for example, the researcher is looking for the indicators of the conceptual framework: properties or dimensions of the concept(s). The role of the conceptual framework is to drive the data collection and the analysis of the subsequent empirical study. The researcher finds the proper initial indicators within step 7. The conceptual framework is part of the coding system.

2   Data collection

This section describes the tasks we undertook to delimit the boundaries of the research by developing the research concern; to select search terms to identify literature to be included in the study; and how that literature was first brought into a reference citation software.

2.1 Delimiting the research concern

The research concern or statement of purpose is a sentence that is going to guide all the study, focusing us on the central issue and direction of the research, as Wolcott (2009) suggested, cited by Saldaña (2011). The building of this sentence provides the starting point for the literature review, in which we look at the boundaries where other authors have explored the question, and delimiting which aspects of the problem remain unexamined.

We set the following statement of purpose for our project: *Study the properties and dimensions of the concept of money in early childhood in the family and school contexts in order to build a conceptual framework to be used in further studies.*

We arranged the search system in a table organized in decreasing order according to their relevance, respecting the research concern (Tab. 1).

Tab. 1. Building the search system from the statement of purpose

Research concern underlining the key concepts: "Study the concept of <u>money</u> and its <u>dimensions</u> in <u>early childhood</u> in the <u>family</u> and <u>school</u> contexts".

Relevance	Concept 1	Concept 2	Concept 3
high relevance	money (*saving, budget, pocket money…*)	early childhood	family/school
medium relevance	money (*saving, budget, pocket money…*)	early childhood	
low relevance	money (*saving, budget, pocket money…*)		
low relevance	childhood		

After searching the combined concepts (*money* + *early childhood* + *family/school*), for example, we started retrieving results in the form of articles or books, usually in PDF format. We searched for the full-text documents and saved them in a computer folder changing their name: author(s) surname, publication year in brackets, first words of the title.

2.2 Importing and organizing the data in the reference manager

If the search system based in the concepts has been successful, we can filter the papers by their relevance concerning the statement of purpose and start adding their information fields to a reference manager like Mendeley or Zotero if we consider they will be useful in future stages of the process (Fig. 1). We can automatically import the Mendeley metadata from internet libraries or databases in most retrieve contexts.

The Mendeley folder for the project started to grow with the papers retrieved in the internet searches, and we began to revise the references in Mendeley trying to correct usual mistakes and matching APA style information for further writing of the paper. The abstracts of the papers are essential but also the full-text documents. We had to evaluate the literature quality, both in the formal aspect of the paper and the academic background of the author(s).
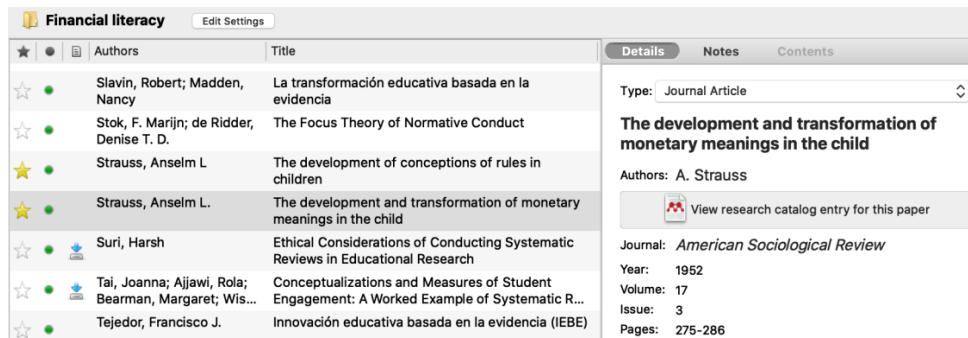
Fig. 1: References on financial literacy in the reference manager Mendeley

3 Importing references and full-text data into MAXQDA

We created a new project in MAXQDA (**Home > New Project)** using the research topic as filename: *Financial literacy in early childhood*. We selected the references in the folder in Mendeley and saved them in RIS format (Research Information System) and imported the references in RIS format to MAXQDA to use them as suggested in the literature. The import process of the references in Mendeley is started in MAXQDA via **Import > Reference Manager Data > Import from Mendeley**.

Fig. 2 shows the dialogue box that allowed us to import the references from Mendeley and store them along with the PDF documents.
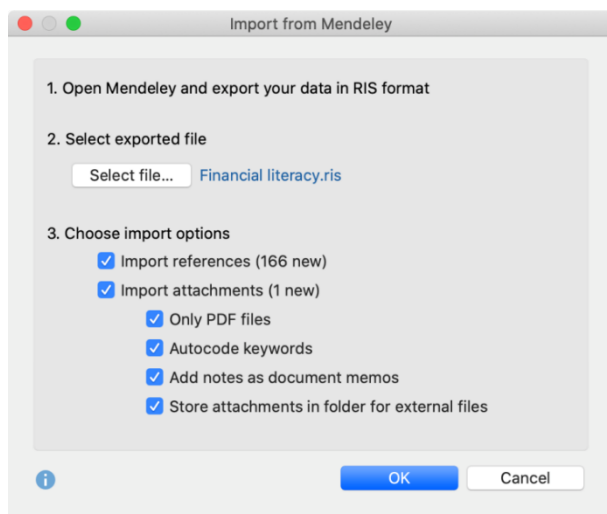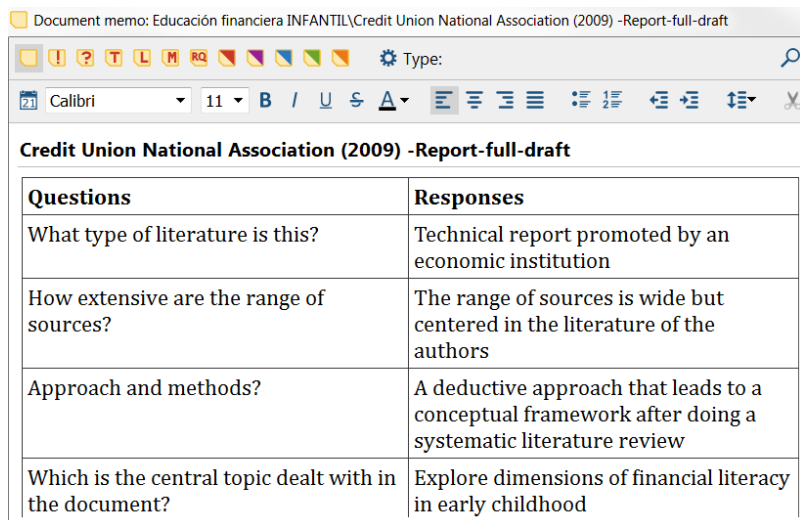

Fig. 2: MAXQDA options for importing references from a reference manager

In our study, we did not import the PDF files from Mendeley in this process because we preferred to import them manually, but in Fig. 2, we show the different import options that MAXQDA allows when importing from a reference manager like Mendeley.

The goal was to evaluate the imported references reading their abstract field, which usually has all the information needed to understand the document and to delimit the boundaries of the research concern by analyzing what had been researched before in the topic and which new knowledge could be generated from it. The abstract text usually has all the information needed to understand the document: theoretical context, design and methods, and results of the study. In order to clarify the research concern, we evaluated the documents abstracts in the way Smallbone and Quinton (2011) suggested. We added a document memo to each evaluated RIS metadata document by right-clicking on the document's name in the Document System window and selecting Memo. In the memo, we can insert a layout as a table, right-click in the writing area and select Insert table. The table included two columns, one for the evaluative questions and another column for the responses. Questions included, which is the purpose of reading the material, the type of literature, the audience of the document, or the analytic approach, were pertinent to appraise the document. Fig. 3 shows a document memo with a fragment of the evaluation table based on the proposal by Smallbone and Quinton (2011).

Fig. 3:   Document memo with standardized questions and responses to evaluate each literature source

The selection of the documents began with the criteria of the dimensions of the concepts related with the research concern and the emerging conceptual framework (*money: saving, budget, etc.*), and we created document groups to classify documents by ideas and themes, right-click button with the mouse in **Documents** structure, **New Document Group**, to store the PDF files previously retrieved from the journals or databases. We dragged the files from the computer folder and dropped them to the desired document group depending on its central topic, as was stated in its document memo (Fig. 3). For example, if we found in the literature a transversal dimension with gender issues concerning *money* and *girls*, we created a document group 'Girls and Financial Education' to group all related documents. Other transversal dimensions in the project were *behavioral finances* and *education research-based in evidence.*

– Children's Financial Education
– Bloom's Taxonomy
– CNMV and Bank of Spain
– OECD
– Psychological aspects of financial literacy
– Girls and Financial Education
– Savings
– Methodology Phase II (includes evidence)

– America
– Money and Childhood
– Regulations and Legislation
– News
– Price
– Child & Youth Finance International
– Living in Society Economy
– Miscellaneous Bibliography

This initial literature review process helped to delimit the statement of purpose and to establish clear boundaries in what was investigated regarding the proposed phenomena and from which point we can go on generating knowledge. The handling of the documents from Mendeley to MAXQDA, writing the asset document memos and the study of the summary of the documents helped us to discard documents that did not fit the precise boundaries of the research concern or even propitiate the change of the statement of purpose, for example, if that topic has been widely researched in the academic community.

From the initial concepts inside the research concern (*money, savings, early childhood, family/school, …*), we followed with the task of developing the indicators to build the conceptual framework.

4   Lexical Searches: Identify important sections in the literature

The terms used in the lexical searches were found in the documents keywords or related to the concepts inherent to the statement of purpose *(money & childhood)*. Another option to find adequate search terms would be to use Word Frequencies (**MAXDictio > Word Frequencies)** to generate a list of the most frequent terms that appear in a document. Searching the literature keywords (**Analysis > Lexical search)** helped to delimit interesting contexts

where the authors develop the concepts (e.g., *money, pocket money*) in their works. We usually used two or more search strings, so using the AND operator within one sentence was the proper configuration for this dialogue box to retrieve both search strings inside a sentence (Fig. 4).

The documents were organized in document groups regarding their main topic, so we activated only one group of documents at a time and performed the Lexical Search on each document group individually to optimize the performance of the analysis, as working with many documents at once might slow it down. In any conceptual framework, there are several conceptual flows, so the search strings must be changed from a document group to the other document group. It could be useful to save a set of search strings for further analysis by saving them in the Lexical Search pane by clicking the **Save** button. This way, the search strings setting is saved in the computer with the file format *.sea. Opening this file in the same pane will load the configuration in the future.
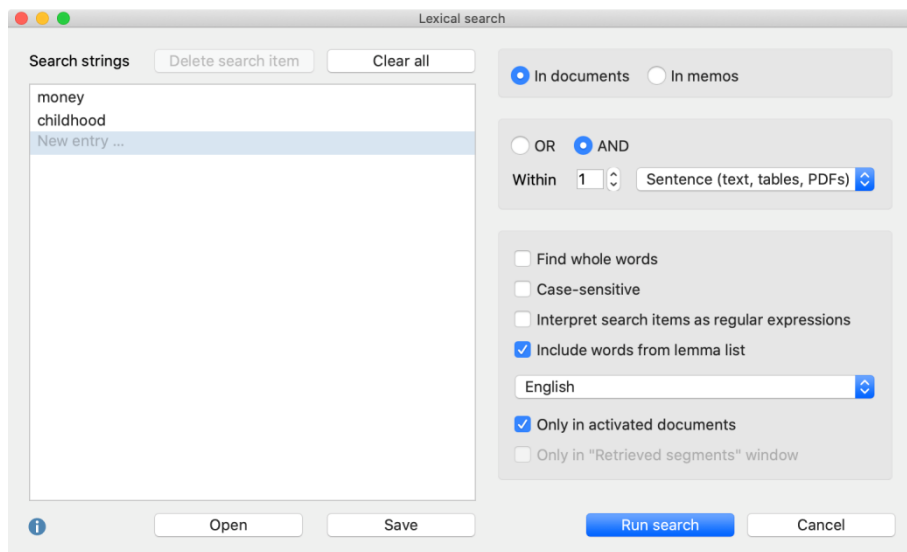
Fig. 4:   Settings for Lexical Search in the documents of a document group

Fig. 5 shows the retrieved context in the Search Results window; we performed searches and read the original text in their contexts. This close contact with the data allowed us to code the literature documents (right-click on the selection **Code > With New Code**, see section 4.1) and write first paraphrases (**Analysis > Paraphrase**, highlight a passage and start writing the paraphrase, see section 4.2).

Fig. 5:   Search results window (left) and context of the search hit in the Document Browser (right)

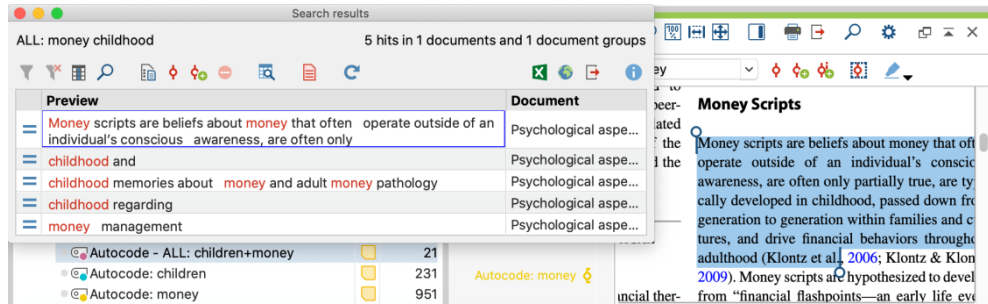## 4.1 Coding relevant sections and building the conceptual framework

In the Search results pane, there are two icons to easily code the results with an existing code or with a new one: ⚲ ⚲. If we are exploring the documents in an early stage, we still do not know the main dimensions of the concepts from our research concern that are the structure of the future conceptual framework. Then, we use the **Autocode search results with a new code** function to code the parts of the documents with a general meaning in our project: *money* or *saving*, for example. This process is about quoting areas of the documents in which the authors talk about *money*, which is interesting, but we do not know still the direction of the narrative. We will go to these passages further on to manually code the segments with the dimensions or attributes of the concepts that are part of our growing conceptual framework. In the *money* example, we could add a dimension or subtheme, namely *handling of money*, in a *basic* way because we are talking about early childhood.

In a later stage, we used already existing codes of the Code System to auto-code the hits in the searched documents because our number of codes with attributes or dimensions of the concept was increasing (*money*, for example). In this later stage, we were building the dimensions of the conceptual framework: *money & banks, banks & savings*, etc.

In Tab. 2, we show an excerpt of the conceptual framework as a table to illustrate how we built the concepts from the coding process. The table was part of the final literature review article. We added numbers to the indicators or categories[1] to know better to which theoretical flow they belong. We have one of the main concepts in which the research evolves derived from the Spanish law related to Early Childhood Law (Real Decreto

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1   Please note that "indicator" is a term used in conceptual frameworks that we understand as a code in MAXQDA, so you can think code and indicator are synonymous. Indicator is the proper word when talking about conceptual frameworks and code is the proper word when talking in a MAXQDA context.

1630/2006, 2007): *1. Social development in childhood*; we inserted the second subtheme *1.2 Explore the social environment* in the column "Category" and *1.2.6 Learn the basic handling of money* is the sixth indicator of this category from seven indicators. In the coding process, we found three sources of proper information about this subtopic (column "Description"), and we linked them to the appropriate cognitive process that would help teachers in the future to develop learning activities with boys and girls.

Tab. 2: Excerpt of the conceptual framework from the final literature review article

Concept	Category	Indicator	Description	Cognitive processes
1. Social development in childhood	1.2 Explore the social environment	1.2.6 Learn the basic handling of money	Knows how to count the money, buy an item, and count the change he/she might receive (UNICEF, 2013).	Identify monetary amounts with which he/she buys and receives the change
			Money can only be spent once, after buying something a person needs more money to buy something else (Jump$tart, 2017).	Explain how money can be spent once and summarize the importance of renewing it
			Understand that money can be exchanged for goods or services and that if it is spent, it cannot be spent again (OECD, 2017).	Reports that the money is exchanged for things or services and cannot be spent again

As we are doing a literature review, there is a gap between the indicator and the content of the descriptions shown in Tab. 2. We could add an additional analytic level that would include *money is spent only once* or *personal money versus others money*, but we thought this way was enough because the conceptual framework is flexible and open. It has to help us but not tie our hands, it evolves during the research process and is contrasted again at the end of the research during the discussion. The relevance of a quote in a document is decided in several ways. For example, in any topic, there are only a bunch of experts. In our project, we found good information from JumpStart, OECD, and UNICEF, or when doing a literature review on grounded theory, probably we only find three or four primary sources.

Fig. 6 shows a sample of the code system in MAXQDA with indicators for "Trust and handling transactions". In the context of the literature review, a code is a word or set of words that requires an explanation to be understood; this explanation is the paraphrase. We use the paraphrases also to build code descriptions for the indicators of the conceptual framework.

The researcher creates codes to build the conceptual framework or to support the literature review process by collecting similar ideas under one code. The researcher creates paraphrases to support the writing of the final article and to understand the codes and their future use during the data analysis. We do both actions at the same time in most

cases. In our opinion, codes are proper to get indicators for the conceptual framework be-cause, in the future, they will be used as deductive codes. Paraphrases are a fine tool for supporting the final report writing process in the field of literature reviews.

▲ Trust and handling transactions	0
▲ Use of money: Spend, save and share	2
Understanding of private, others and public property	3
Understand the difference between spending/saving/debt/exchange	2
Money is only spent once	2
Money and help	3
Money and saving	4

Fig. 6:   Part of the code system with indicators of the conceptual framework

4.2 Paraphrasing relevant sections to support building of the conceptual framework

"A paraphrase restates another's idea (or your own previously published idea) in your own words. Paraphrasing allows you to summarize and synthesize in-formation from one or more sources, focus on significant information, and compare and contrast relevant details" (American Psychological Association, 2020).

Paraphrases are a way to summarize data and build analytical categories (Kuckartz & Rädiker, 2019). Although paraphrases do not require the previous coding of the data, the process contributes to generating analytical categories inductively (Kuckartz, 2014). We used the paraphrases (**Analysis > Paraphrase**) in the context of the Bibliographical Docu-mentary Analysis as the central axis of the systematic review of bibliographical documen-tation and support to the generation of the conceptual framework, for example by being part of the code descriptions. The role of the conceptual framework is to drive the future data collection and the analysis, so the code descriptions must be as accurate as possible and include all the nuances of the codes, as seen in Tab. 2 example. Furthermore, the par-aphrases properly organized, helped us to write the final report and the final journal man-uscript.

When we found an interesting idea using Lexical Search, we minimized the Search Re-sults window and focused our attention on the text. Fig. 7 shows how an interesting excerpt of a book chapter has been paraphrased and coded in this step. For coding, we used both an instrumental article structure code that relates to the part of our article (see section 9) in which we will include the idea and an analytic code that captures the meaning of the quote.
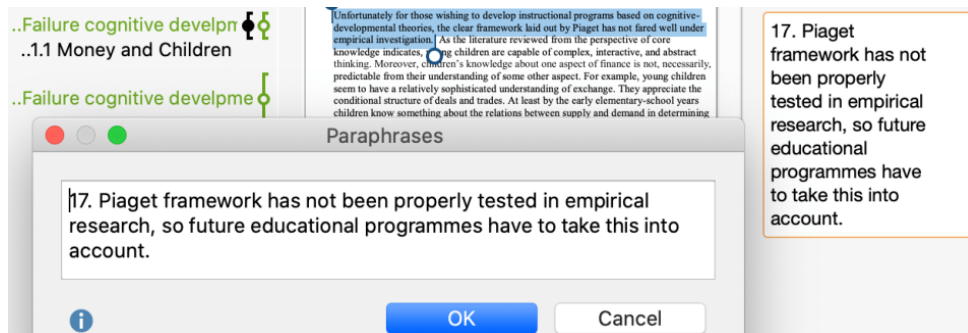
Fig. 7:   Capturing an idea from the literature by paraphrasing it

After coding and paraphrasing one text segment, we returned to the search results and kept on exploring the rest of the hits. The code system kept on growing and the set of paraphrases too, our insight into the theoretical flows in the readings was wider from moment to moment. Coding and paraphrasing relevant text segments helped us to further develop the indicators, properties, and dimensions of our conceptual framework.

5   Using memos for keeping track of the analysis

Memos were also used to note the important ideas that, in most cases, relate the paraphrasing with the coding of the texts. Memos and codes are containers of ideas, in the first case there is more space to develop the narrative explaining why an idea is important in the literature review, in the second case, code names express an idea more shortly and collect segments that are related to the idea.

We used code memos to add descriptions of the codes and important information for the analysis that could be easily connected with paraphrases in the Categorize Paraphrases pane of MAXQDA (**Analysis > Paraphrase > Categorize Paraphrases**, see section 8). Document memos were used as an evaluative resource as mentioned; we inserted tables in the document memos to evaluate the documents. At the root document level, we inserted a memo with a RQ icon **RQ** as logbook to write down all the important steps or ideas of the analytic process inserting the date before each annotation to keep track of the temporal flow of the task.

6   Word Combinations: Data-driven searches to identify more relevant sections

Keywords from the literature did not cover all the ideas and dimensions of the concepts relevant to the conceptual framework. So, the Lexical Search and the auto-code process

only gave us a partial view. Thus, we decided to use the Word Combinations tool (**MAXDic-tio > Word Combinations**) to retrieve more attributes and properties of the conceptual framework indicators and categories. Fig. 8 shows the Word Combinations dialogue box and the settings we used.
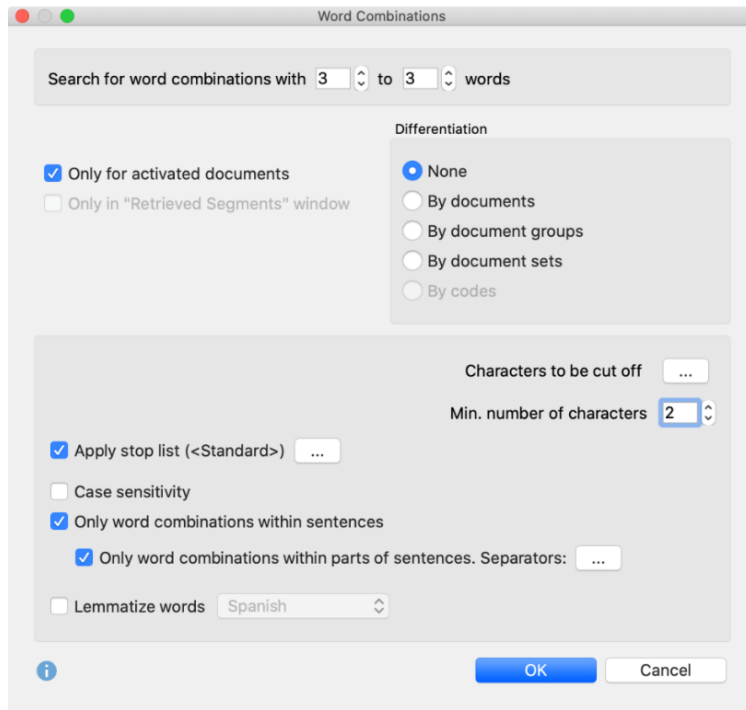

Fig. 8:   Word Combinations dialogue box

The justification of the options selection is listed below:

❖   We used to set the combinations with at least three to three words because combina-tions of two-to-two words retrieve much information and intuitively we thought that an interesting combination of words should have an article or preposition, a noun, and an adjective.

❖   Setting the option for **Only for activated documents**, allowed us to explore document group by document group, for example for different subthemes of the conceptual framework developed so far: *children attitudes towards money, the family role* or *the school task in training skills like saving*. Document groups serve to organize the docu-ments by themes coming from the literature; the code system organizes the codes by themes and subthemes of the conceptual framework.

❖ In this step, we did not differentiate by documents inside the document group.
❖ Selecting **Only word combinations within sentences** or **Only word combinations within parts of sentences** narrowed the results but offered them with more quality.
❖ We decided not to **lemmatize words** in English because otherwise, the results would not be as precise as wished.

Grouping the documents was a good idea; the Word Combinations search can delay in getting the results if we launch it with all the documents in the project and searching by ideas or topics is more efficient. Fig. 9 shows the retrieved context. We searched inside the Word Combinations for topics related to the concept, in which we were interested in that moment, "biases" in the example. If we found an interesting result in the Search Results pane, we proceeded to read it in its context.

Fig. 9: Results window with word combinations (top left), detailed hits in the Search Results window after double-clicking on a word combination (bottom) and full context in the Document Browser window (top right)

In most cases, reading the quote in its context is enough to get an idea of the content and the properties or dimensions involved in that idea. From time to time, we read the full chapter or section of the document. The reason was that sometimes it is easy to find interesting ideas linked to the search hit that took us there.

If MAXQDA is provided with the right search terms, the system will do the rest. Once we found an interesting passage and read it carefully, we started working in the analysis manually without quitting the process started by Word Combinations; this is important. If the results window from Word Combinations has been closed to code the text manually, you should start the process again. The point is to take advantage of an automatic tool as Word Combinations, even searching inside the results list, and in another screen read the

context of the Search Results by navigating the list of hits. If you read something interesting for the concept you are working on, you can code it and/or paraphrase it.

7   Distributing paraphrases to the sections of the final review article

The Categorize Paraphrases function (**Analysis > Paraphrases > Categorize Paraphrases**) was used to get a general overview of the ideas that were going to be the conceptual parts of our final article (Fig. 10). The table offers an interesting workspace in which we were able to have at a glance the code system and the paraphrases that we had been developing from the original texts.

Fig. 10: Using Categorize Paraphrases to support writing the final report

We revised the conceptual codes applied to the paraphrases to know better the links between the conceptual framework and the emerging narrative of the final report or future article. We recoded the paraphrases with instrumental codes, that followed the structure of the article (as can be seen in Fig. 10), to match the ideas in our minds with the narrative of the report. During this process, we started numbering the paraphrases inside a section of the report with the logic of the narrative of the report. For example, the introduction of an article is a hard piece of text to develop, so we ordered the proper paraphrases to get a logical narrative sense.

We numbered the paraphrases in the sequence in which they will be included in the literature review article; by using this collection of excerpts, we kept on coding and working in the properties and dimensions of the conceptual framework. By the end of the process, we were ready to start writing the final report of the conceptual framework and the article. After clicking in the "Paraphrases" heading of the column to order the paraphrases by number, we exported the output into a Microsoft Excel file by using the Excel export icon. This Excel file has a beautiful landscape what we have done; we could see the source document, the original paraphrased text at the left, but at the right part we had the ordered paraphrases along with the exact part of the article in which they should be inserted represented by the instrumental codes of the article structure. The analytic codes that represent the parts of the developed conceptual framework also came along in that column to help better to develop the narrative of the article and link it with the tables inserted in it representing the parts of the conceptual framework.

8 Comparing and linking paraphrases to look for relations between the identified concepts

To better perform the discussion of the article or theoretical dialogue, we used the Paraphrases Matrix (**Analysis > Paraphrases > Paraphrases Matrix**) to compare ideas paraphrased in the documents. Comparing is useful when contrasting the same idea from different authors. For example, we found three statements that had a similar meaning but with slight differences: UNICEF states that children have to understand how money is used in the community, JumpStart states that children understand that people pay for goods and services in different ways and OECD states that children should be aware of different payment options. We examined the three similar ideas by comparing the paraphrases for the text segments and derived the code "1.2.2 Understanding in using the money in the community" which was included as an indicator in the final conceptual framework. Alternatively, different ideas that have a theoretical connection inside one (or many authors) can be contrasted in the Paraphrases Matrix.

When we found an interesting pair of ideas in two documents, we linked them. The process was as follows; first, we activated the desired documents, books or papers, for the example shown in Tab. 2, we activated the document group *Exploring the social environment* with three different documents and then used the Paraphrases Matrix to compare their paraphrases. A click on the links with the source information below each paraphrase took us to the data, we minimized the Paraphrases Matrix and created an internal link by right-clicking with the mouse on the selected text in the Document Browser window and selecting **Insert Internal Link (Anchor/Target)** in the context menu. After creating the link, we returned to the Paraphrases Matrix windows and continued with analyzing the paraphrases looking for relations in the ideas from different parts of the database (Fig. 11).

At the end of the process, we exported the Categorize Paraphrases view to Microsoft Excel with a click on the Excel icon in the top right corner of the window, as mentioned above. This way, we also exported the tabular Overview of Links window that opens with a right-click on Documents root and selecting **Links** from the context menu or alternatively choosing **Reports > Overview of Links**. With these two documents, we wrote the discussion part of the literature review article in a short period.
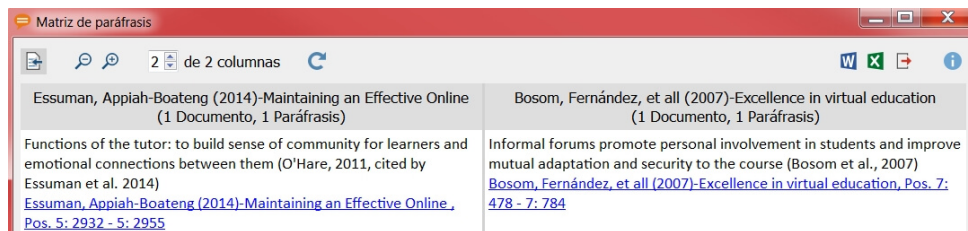

Fig. 11: Comparing paraphrases

9   Adding a code system with instrumental codes for structuring the final literature review article

In addition to the conceptual codes, we built a top-level code section labelled "Article Structure." It contained several instrumental sub-codes, like "Introduction," "Theoretical context," "Method," etc. that represented the structure of our final literature review article. Fig. 12 shows, how the code "Theoretical context" was divided into several aspects using additional sub-codes. These instrumental codes match with the main parts of the future article. This code system quote parts of the textual corpus intersected or co-occurring with the analytic codes used in the conceptual framework. We used this code structure during the whole process of analysis.

Fig. 12: Codes representing the structure of the literature review article to be written

Developing such a code system representing the structure of the final report is also very useful in other academic tasks like doctoral dissertations, research projects or writing an article. We developed this structure from the beginning but sometimes it is better to have been working with the indicators of the conceptual framework for some time because you will know better the themes and subthemes that will guide the sections of the report. This makes it easy to add the sections of the future academic product.

10 Lessons learned

We learned in this process that MAXQDA has many tools that properly combined can offer usages different from those that we initially think that they were created for. Writing paraphrases made sense in our task applied to our Bibliographical Documentary Analysis combined with the interesting lexical tools as Word Combinations in **MAXDictio** menu.

Being able to perform a quick analysis starting from automatic tools, Lexical Search or Word Combinations, combined with the manual analysis by coding and paraphrasing, saved us many hours of tedious work just by organizing the tasks differently.

The mentioned process was systematic, and we only had to focus our attention on the ideas flow that was inside the literature documents. Furthermore, the constant contact with the original data that MAXQDA enables, facilitates that the ideas inside the conceptual framework, and the later article, were accurate and close to the interpretation that the original authors had about them. Because the proximity to the data, members of the research team or the academic community can validate that the ideas have been properly apprehended.

We had prior experience both in the usage of MAXQDA and working on the topic of the research, but we are sure other researchers can benefit from this approach to perform better systematic literature reviews. Our approach has many advantages for novice doctoral candidates; anyway, they have to improve their skills in software like MAXQDA and choose a system to perform the literature review of their dissertations. In our opinion, MAXQDA can help them to optimize their time and resources better and end successfully.

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About the authors

Antoni Casasempere-Satorres is a sociologist and has a PhD in education; he is an independent consultant and MAXQDA trainer. He has worked as a consultant in numerous research projects at a European level, both in design and in data analysis with MAXQDA.
LinkedIn: https://www.linkedin.com/in/casasempere

Marisa Vercher-Ferrándiz is a professor at the Universitat Politècnica de València in the area of finance. She has used MAXQDA in research projects on e-learning and finance education.
ORCID: https://orcid.org/0000-0002-1822-5158