MAXQDA¹⁰
The Art of Text Analysis

Introduction

Content

1   First steps in MAXQDA

Welcome to the MAXQDA Introduction!

To get the most out of this introduction, it is recommended that you carry out the steps on your own computer with your own project data or with the provided.

As with all Windows programs you can start MAXQDA by double-clicking on the program icon. The MAXQDA logo will appear briefly and then you will see the following start-up screen:
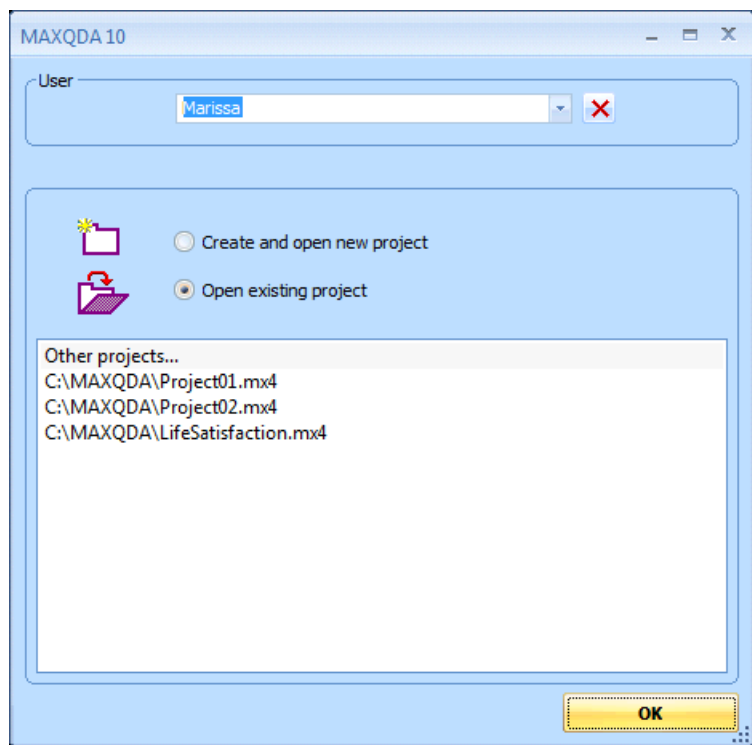
The start-up screen of MAXQDA

You have the option **Create and open new project** or **Open existing project** (A project is the basic unit in MAXQDA just like a DOC/X file represents the work unit in word.)

You can enter your user name in the empty field of the dialog box. If you are working on a project with multiple persons it is useful to credit the user in order to document who wrote a certain memo or created certain codes. The different registered users will be saved by MAXQDA, accessible through a list at the top of the window.

You can now select that you would like to create and open a new project and confirm by clicking **OK**. A windows file browser window will appear wherein you can enter a file name (e.g. "test project") and choose the folder where you would like to save the project.

From the moment you start the program, MAXQDA will save every single step automatically, so you do not need to regularly save your work, as you might do in other programs like Microsoft Word. It is still *strongly* recommended, however, that you secure your project from time to time with the **Backup project** function in the **Project** menu. It makes sense to keep the project name and add the given date (e.g. "test project 02-21-11"). This way you are always able to access earlier stages of your project.

Additional MAXQDA projects can be created by selecting **Project > New project** in the taskbar. You can create an infinite number of projects.

A project consists of text groups, texts, codes, coded segments, memos, variables, text links, etc. Technically speaking, a project is administered as a single file (file extension MX4).

All files in your project are saved in a single file. Project files are easy to trace with the MX4 extension. All relevant documents can be secured by doing a simple backup of the project file!

The only exceptions to this rule are (1) image and PDF files that are larger than the set maximum file size (set under **Options** in the **Project** drop-down menu), and (2) multimedia files. These files are then stored in the folder designated for external project files.

Opening a project last used in an older version of MAXQDA

When opening a project in MAXQDA10, it will automatically display only MX4 files. To open projects that were saved in an older version of MAXQDA, you need to change the type of file it is searching for. To do so, simply click on the arrow next to **Files of type**, and select the appropriate option.
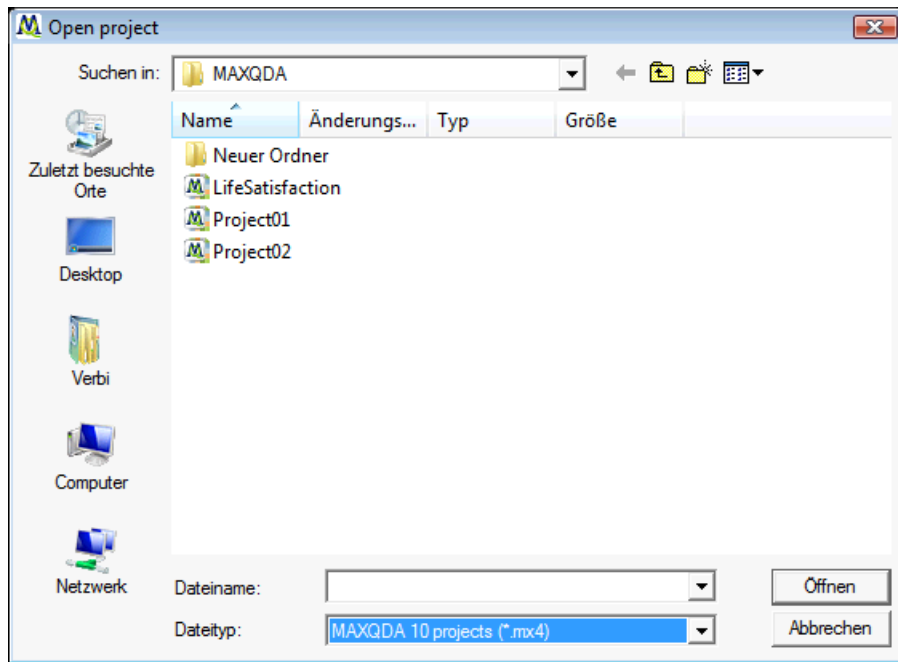
Opening an existing MAXQDA project

2   The Desktop and windows in MAXQDA
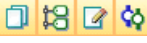
As soon as you have clicked **Save** in the windows file dialog, MAXQDA will open the new project "test project" which, of course, holds no data. At the same time the "Tips and tricks" window will appear and give you a useful piece of information about the program. If you do not wish to receive these tips, simply unclick the box in the bottom lefthand corner.

After closing the "Tips and tricks" window, you will notice that the user-interface is constructed just like the Windows programs you are used to. Similar to the Microsoft Office programs, the file name of the current project can be found in the title bar.

Beneath the menu bar is a toolbar allowing quick access to the frequently-used program functions. To the right of the toolbar you will find the Code bar, offering different functions for coding and editing the current text. Additional toolbars can be activated by clicking on the **Toolbars** drop-down menu. All activated toolbars can be dragged and moved.
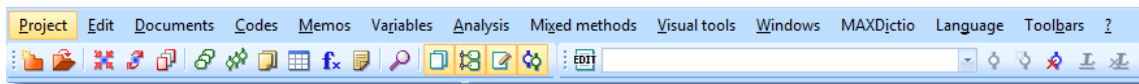
The Toolbars "MAXQDA standard" and "Code" underneath the menu

Underneath the toolbar you will recognize the four main windows of MAXQDA. All four of them can be hidden (and shown again) via the Windows menu or the toolbar . You can resize the windows by dragging the corners.
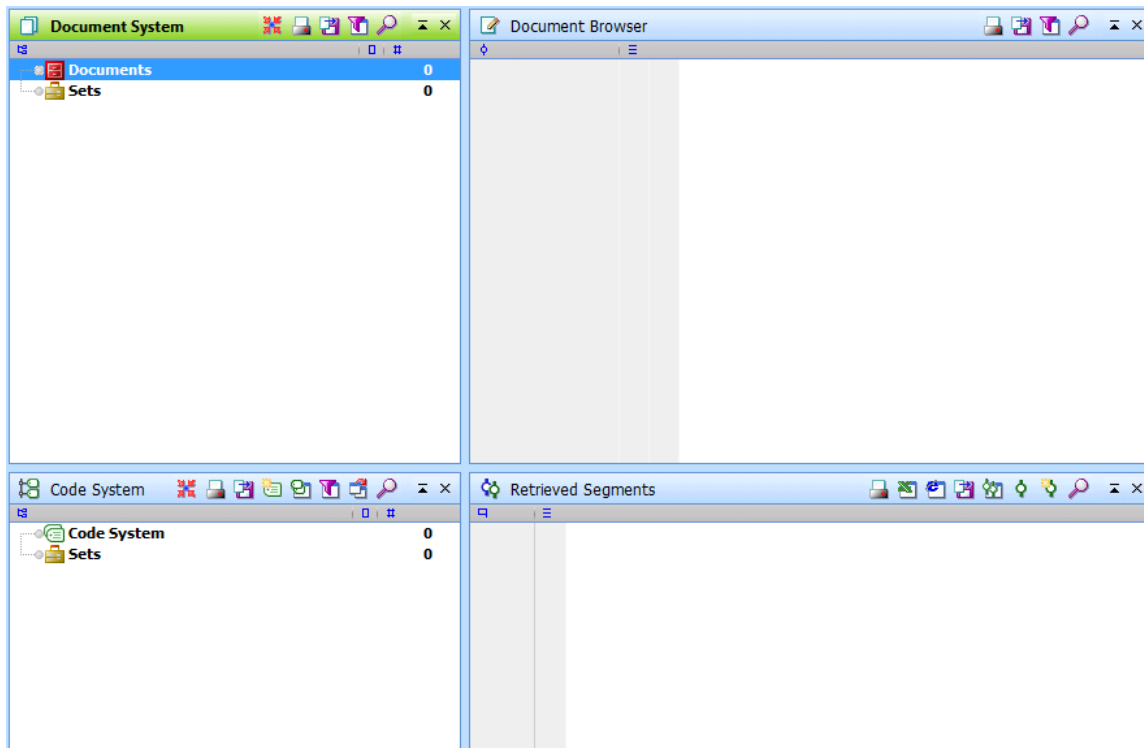
The four main windows of MAXQDA

The four main windows provide the following features:

❑ The "Document System" (top left) displays all imported texts, images, and multimedia files in your project. All your material is collected here and can be sorted into multiple texts.

❑ The "Code System" (bottom left) consists of the category system with the created codes and subcodes, as well as the number of administered code segments

❑ In the "Document Browser" (top right), one document from the "Document System" appears and can be edited, which means that you can mark text segments, attach codes, or create memos. Georeferences are also visualized in the Document Browser.

❑ The "Retrieved Segments" (bottom right) window allows you to look at a selection of coded segments that correspond to the activated documents and codes.

All windows grant you direct access to the management functions: simply right-click on the icon or directly into the blank sections. Beneath the menu bar is a bar with quick buttons which allow you to access to frequently-used program functions.

3 Import and organization of documents

MAXQDA makes it easy for you to import and organized various types of documents, including text documents (DOC/X, RTF, TXT), PDF files, and images (JPG, GIF). These texts can contain all sorts of objects, such as tables, pictures, graphics, etc. Text and images can also be pasted into documents already imported via the Windows clipboard.

The way to work with audio and video files in MAXQDA is described in chapter XX: Audio and Video Files.

3.1 Simple document import

With MAXQDA you can enter new texts, copy texts via the windows clipboard, or import documents as a file. In most cases you will want to import an existing text file. These files can contain all sorts of objects, e.g. charts, pictures, graphics, etc.

Attention: When importing a text file into MAXQDA make sure that it is not open in another program (e.g. in Word)!

Import via drag-and-drop

Importing documents in MAXQDA is intuitive and easy: simply drag as many files as you like from Windows Explorer and drop them into the "Document System" window.
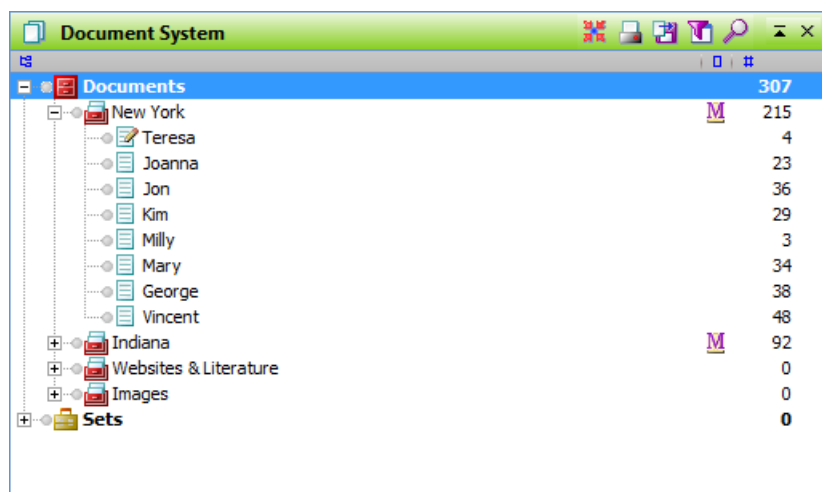
The main window of the "Document System"

Import via pop-up menu

You can also right-click on the **Documents** icon in the "Document System" window and select **Import document(s)** from the pop-up menu. The following file dialog allows you to select the text of your choice – strikingly similar to opening a file in Word.
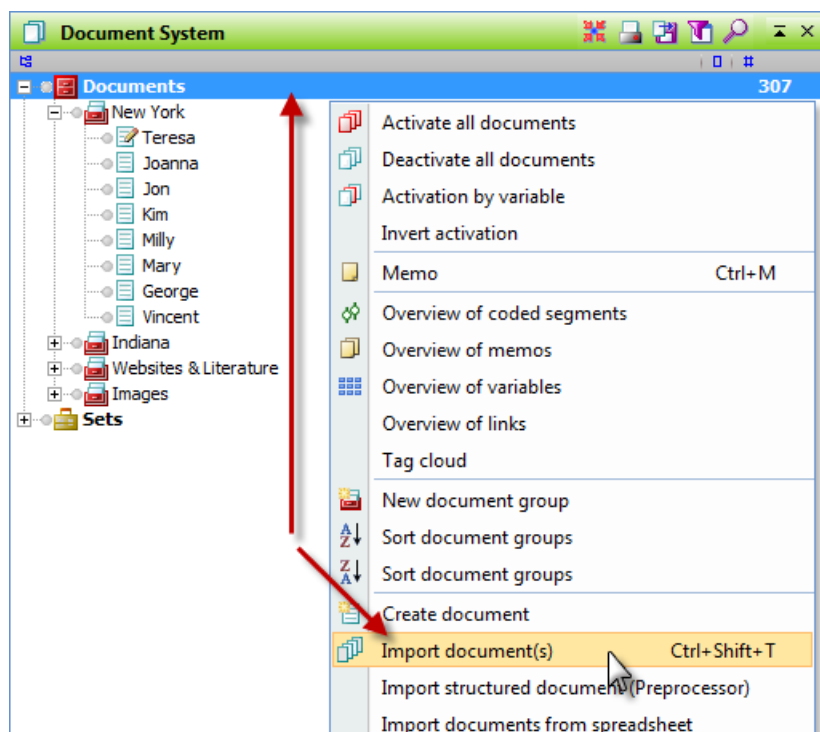
Documents can be imported by right-clicking on **Documents** *and after that* **Import document(s)**

Import via the menu "Documents"

You can also import documents by selecting "Import document(s)" from the "Documents" drop-down menu:
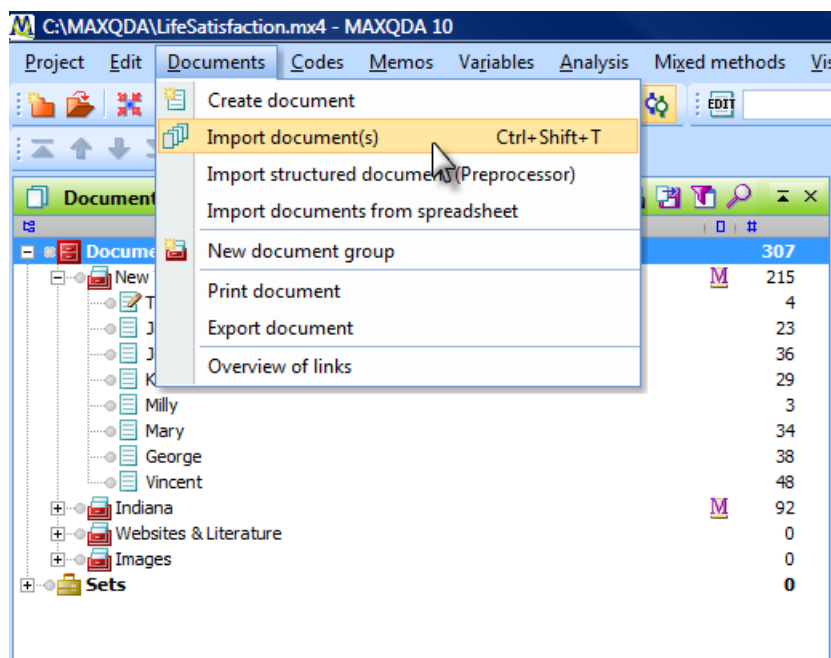
Import documents via the MAXQDA menu

Visualization of documents

In MAXQDA 10, it is now possible to import graphics and image files into the Document System and organize them as you would text documents. Importing these image files is done just like you would import text documents. The

documents shown in the Document System are visualized with various symbols depending on the type of file. RTF and DOC/X files are visualized with the ▤ symbol, PDFs are visualized with the ▨ symbol, and pictures have the ▨ symbol.

By moving the mouse onto the name of a document you will see a tooltip which gives you information about the size of the document, the author (the user that imported the text), the date of the import, the number of coded segments, and the number of memos.

```
Bytes:                    8619
Creation date:      09.02.2011
Author:                Marissa
Number of coded segments:  4
Number of memos:  1
```

Tooltip

3.2 Opening a document for editing

In order to look at or edit a document, it has to be loaded into the "Document Browser" window first. There are two possibilities to do so:

❑   Either double-click the name of the document in the "Document System" window (see fig.),
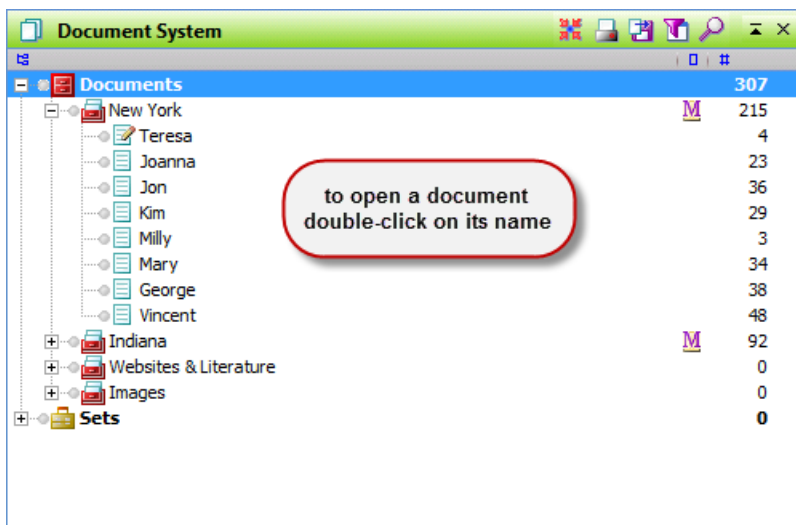
Texts can be loaded by double-clicking

❑   or right-click the name of the document and select the option **Open document** from the context menu.
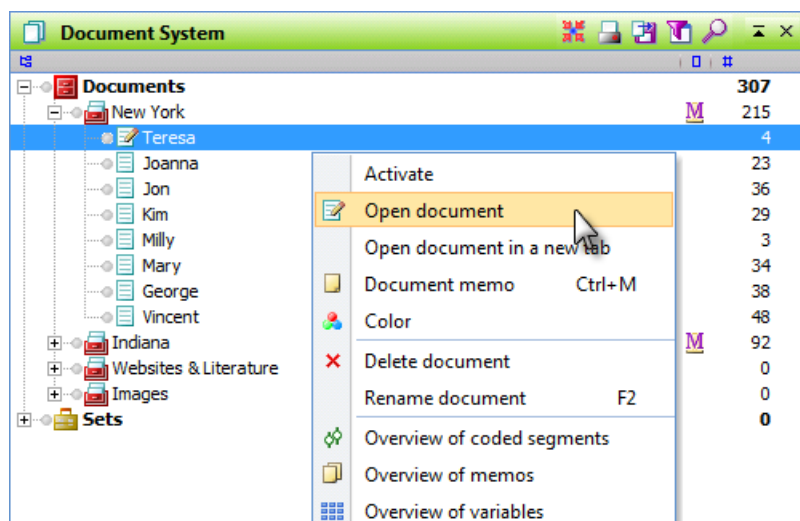
Texts can be opened by right-clicking and chosing "Open document"

The opened document will be signified by a specific symbol (horizontal pen) in the "Document System" window.
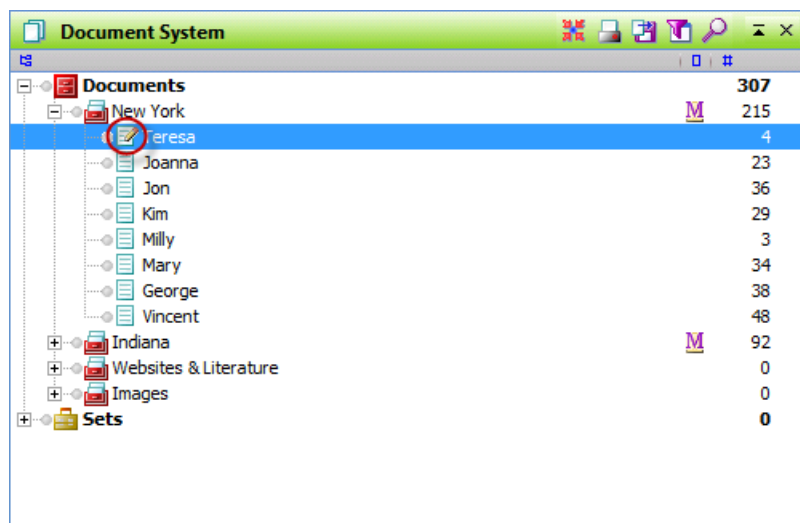
Opened text signified by a horziontal pen: "Teresa"

After opening the text, you will see it in the "Document Browser" window. Appearing in the title bar behind the word "Document Browser" will be the name of the text group and the current text. Immediately in front of the text will be a column with the paragraph numbering.
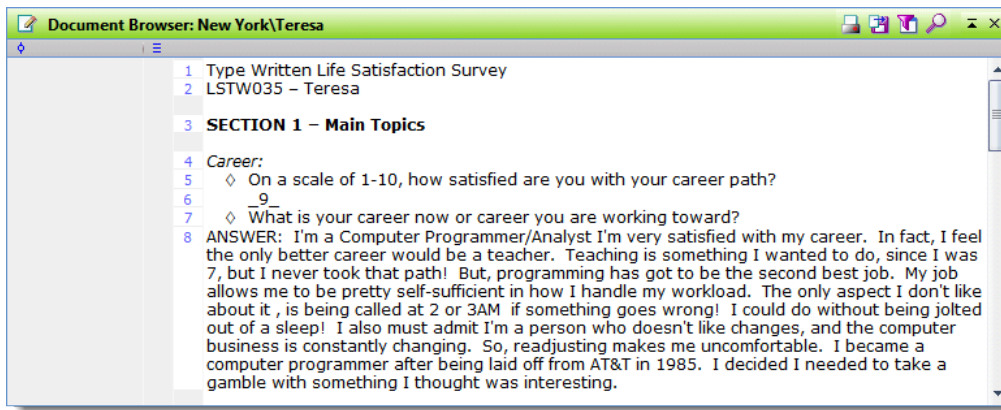
Opened text in the "Document Browser"

Documents arrange themselves into a certain number of paragraphs. A paragraph equals a paragraph in Word, meaning that every paragraph ends by pressing return. In other words, a paragraph represents the text in between two paragraph breaks.

In front of the paragraph numbering column you will see a light-greyish column that is, for now, empty. Later on this column will show the text memos. There is another empty, grey column that will later show your code segments. This column can also be moved to the other side of the text by dragging it with the left mouse button.

Opening texts in tabs

In MAXQDA10, it is now possible to open multiple texts in the "Document Browser". Instead of double-clicking on a text, right-click and select **Open document in a new tab**. Rather than replacing the document that was formerly opened in the "Document Browser", both documents will be in the window. You can toggle between the texts by clicking on the appropriate tab.
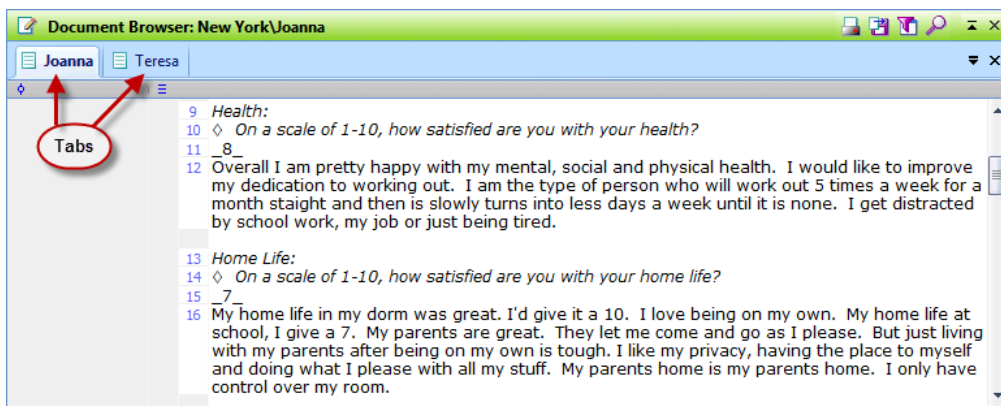
Two opened tabs in the "Document Browser"

In the example above, two different documents are open, and "Joanna" is currently being displayed. Switch to the other tabs by simply clicking on the name.

You can also open an entire document group or set in tabs by dragging the group or set onto the "Document Browser" window.

Using tabs is especially helpful if you need to constantly switch back and forth between several documents or if you have extremely large documents that take a while to load.

3.3 Working with PDFs

In MAXQDA10 it is possible to import PDFs directly into your project just like you would with DOC/X or RTF files.
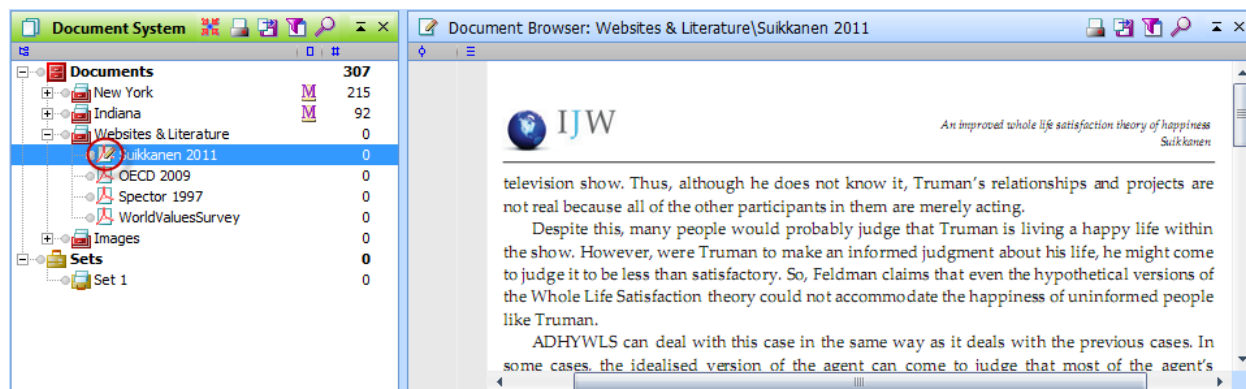
Opened PDF file in MAXQDA

There are, however, several differences in how you can work with the PDFs:

❑   The basic separation units with PDFs are pages instead of paragraphs.

❑   PDFs cannot be edited in the "Document Browser". Entering Edit Mode (see 3.5) as you would do when working with RTF or DOC/X files is not possible.

❑   Some PDF files are simple "pictures" or scans of text. Text in this type of PDFs can only be coded as you would code images.

Coding text within a PDF is very similar to doing so in any other text document; You can code as little as a single character or as much as an entire page. PDF files, however, are broken up into units by page instead of by paragraph. Because the PDFs can't be split up into paragraphs, it is not possible for MAXQDA to differentiate between paragraphs on the same page.

You will also notice that PDFs are not viewed as the other text files. When you double-click on a PDF in the "Document System", the first page will appear in the "Document Browser".

To move between pages, however, you will need to activate the **Document navigation** from the **Toolbars** dropdown menu. It looks like this:

The first four symbols are for navigating between pages.

   takes you to the first page,

   moves you up one page,

   moves you down one page, and

   moves you to the very last page.

You can also zoom in and out , view the document in its original size , change the view so that it fits the window horizontally , or fit the entire document into the window .

 toggles "Continuous View" on and off for PDF files.

 shows all bookmarks within a PDF document for quick navigation.

Tip 1: The zoom in and out functions in the "Document Navigation" toolbar can also be used to zoom in and out of "normal" non-PDF documents.

Tip 2: If you are using a mouse with a wheel, you can hold the Alt key and use the wheel to jump between pages of a PDF.

Tip 3: You can also zoom in and out with the mouse wheel by holding the Ctrl key.

3.4 Organizing documents in document groups and sets

In principle, document groups function like folders in Windows Explorer. To create a new document group, right click **Documents** in the "Document System" window and select **New document group**. MAXQDA will always suggest a name: Group 1, Group 2, Group 3, etc. You can accept this suggestion or, even better; choose a more meaningful name. For this tutorial you should call your first text group "New York."

It is possible to rename your document groups at any time by right-clicking on an existing text group and selecting the option **Rename document group**. There is no restriction on the number of document groups in MAXQDA.

In the aforementioned step you created a document group; now you will be able to insert texts into this text group. To do this, right-click the concerned document group ("New York", in our example) and select the command **Import document(s)** from the menu. You will find the sample texts in the following program folders:

❑   Windows XP: **My Computer > Shared Documents > MAXQDA10**

❑   Windows Vista: **Desktop > Public > Public Documents > MAXQDA10**

❑   Windows 7: **Libraries > Documents > Public Documents > MAXQDA10**

After importing, you can open each document by simply double-clicking on it. The document will now be available in the "Document Browser". RTF and DOC/X files can be edited in MAXQDA by opening the concerned text and pressing the **Edit Mode on/off** symbol EDIT in the coding toolbar. Then you can change, edit, or add to your text.
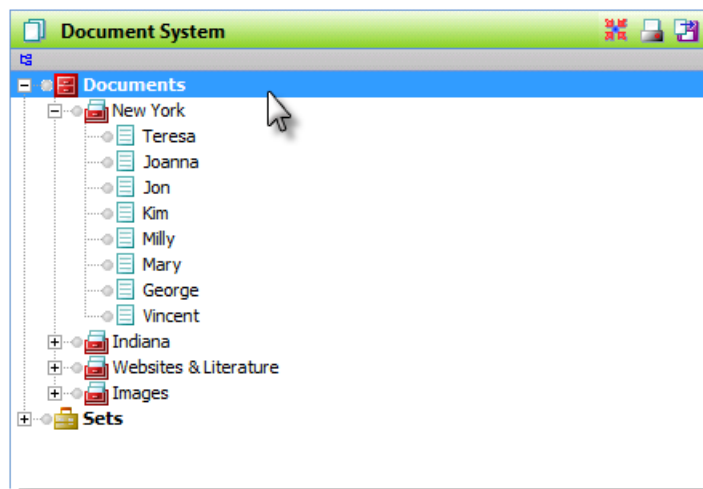
Imported documents in the "Document System"

MAXQDA makes it possible for you to create "document sets," which act as temporary groupings of documents from various document groups. A set is only made up of links to the documents and does not actually cause documents to be duplicated. To create a new set, right-click on the "Sets" icon in the Code System and select "New set."
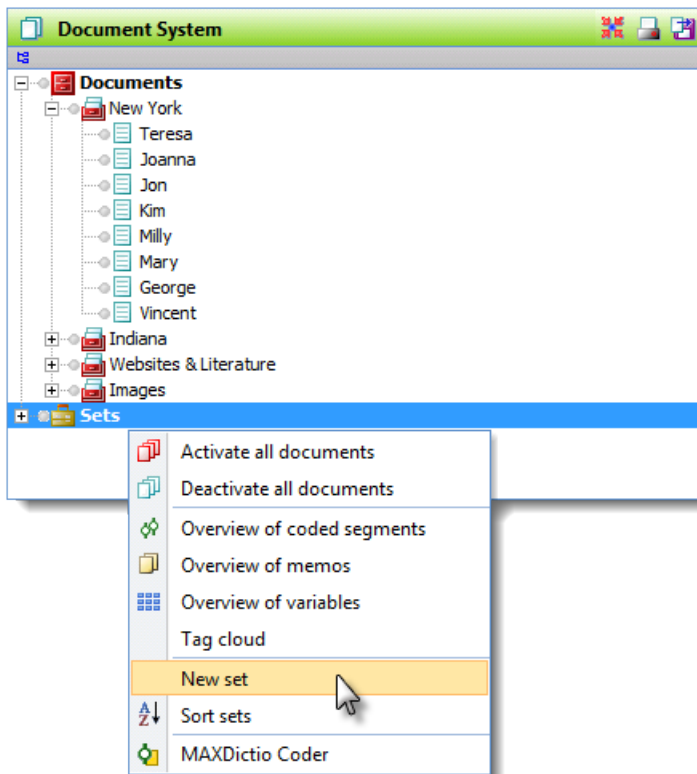
New sets can be created via right-click

Tip: If documents are activated when you choose to create a new set, these activated documents will automatically be added to the set.

You can then give the new set a name (e.g. married male interviewees). Any set can be edited or added to by dragging new documents into it or right-clicking on a document already in the set and choosing to delete it from the set.

Sets remain available to you until you choose to delete them by right-clicking on them and selecting **Remove set**.
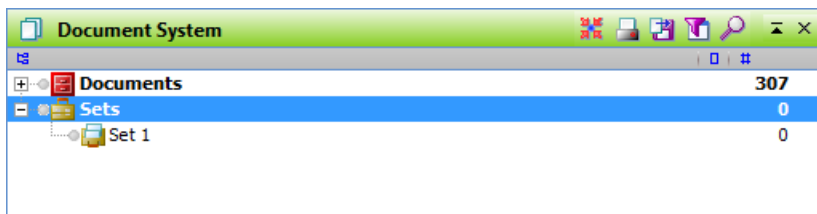
Created document set

3.5 Transcribing/writing text directly in MAXQDA

It is also possible to create a new text in MAXQDA, either by writing or transcribing (see free transcription tool f4 online) directly into the "Document Browser" or via copy and paste from a different source (internet, Word, Wordstat, Excel, etc.).

In order to enter new text, an empty text has to be inserted into the "Document System" first. Right-click on the text group of your choice (or the root of the "Document System") and select the option **Create text**. This creates a new text with the name "Text n" ("n" represents a continuous number in the "Document System"). In MAXQDA there are two modes available for text editing:

❑ "Code Mode" allows you to attach codes to selected text passages, and to write memos and attach them to text lines.

❑ "Edit Mode" allows you to edit the text, add or delete text, correct mistakes, and mark text passages.

The Code Mode is active by default when a text is opened in the "Document System". Click the **Edit Mode** button EDIT to switch to Edit Mode. When working in Edit Mode you will see familiar features that are also found in most word processors: you can choose the font type, size, and color, as well as formatting characteristics such as bold, italics, or underline.

Open the inserted, empty text via double-click and press the **Edit Mode** button. You can now start entering your text.

When you switch back to Code Mode, the modified text will be saved automatically. The same happens when another text is opened in the "Document System". You can tell if you are in Code or Edit Mode by looking at the window bar: the Code Mode shows you a quick list of the last used codes.

Toolbar "Code" in Code Mode

Edit Mode gives you a list of the available fonts.
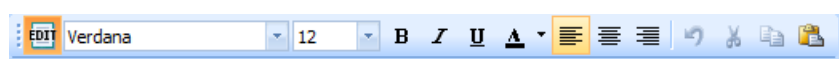
Toolbar "Code" in Edit Mode

While editing your text in Edit Mode you can nullify your changes with the **Undo text changes** or the **Undo all text changes** function; however, this is only possible as long as you remain in the Edit Mode. As soon as you leave Edit Mode, MAXQDA will save the edited text.
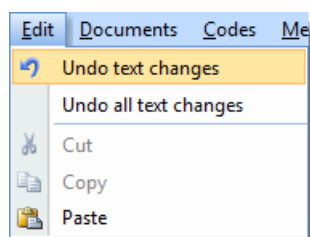
Changes in the Edit Mode are only possible if this mode is acitvated

It is recommended that you do not code in Edit Mode but rather use it exclusively for the editing of texts and change back to Code Mode when you are done.

Tip 1: If you would like to transcribe a digital interview, see chapter 15: Audio/Visual files.

Tip 2: A new text can be created with the shortcut **Ctrl+T**. This shortcut creates a new text at the top position of the "Document System" and simultaneously opens it in the "Document Browser", enabling the Edit Mode, so that you can immediately start writing or importing. You can also move this newly-created text to any place in your "Document System".

3.6 Inserting from the clipboard

Text passages from Powerpoint, Internet Explorer, and many other programs can be inserted into MAXQDA via the clipboard (copy and paste) as well as with drag and drop.

In order to do so it is necessary to open a text (empty or existing text) into which you would like to import the passage and go into Edit Mode. Now select the text segment or the object (e.g. audio file in Windows Explorer or text from the internet) and copy it into the clipboard by pressing **Ctrl+C**. It is now possible for you to import the text into the "Document Browser" window of MAXQDA by pressing **Ctrl+V**.

An even easier alternative is drag and drop: simply select the segment of your choice and drag it into the MAXQDA window.

Remember that importing audio and video files can significantly increase the size of your project file. Consider the possibility of using external links. They can easily be integrated into existing texts. Mark the location where the link is supposed to be inserted (e.g. a word), right-click and select the option **Insert external link** from the context menu. Now you just have to select the concerned file from the Windows file dialog box.
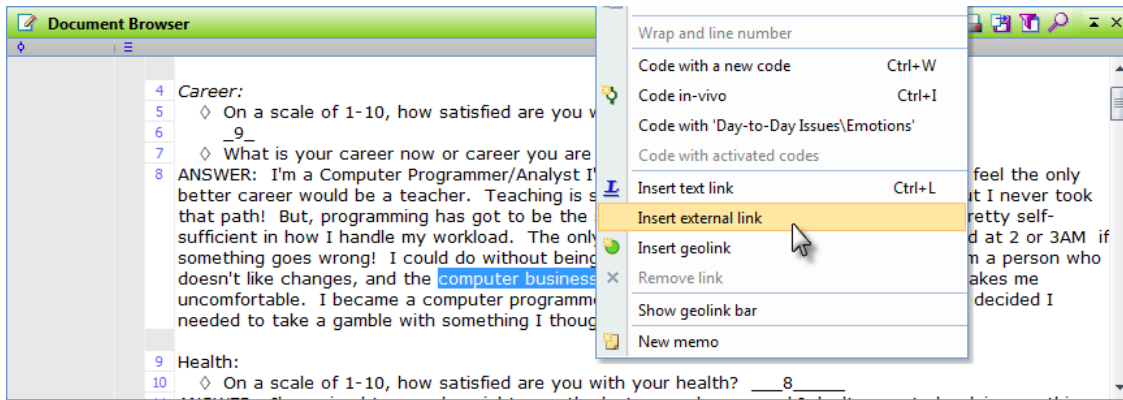
Link a text passage to a file on your computer

To import internet pages with graphics and images, copy them to Word first and save them there or select the text segments of your choice and copy them to the clipboard. Now, as usual, you can import the text into MAXQDA or paste it from the clipboard. Due to the fact that a lot of web pages consist of very large and complicated tables, many programs fail to give an adequate image of them after importing. This is also true for MAXQDA.

3.7 The options menu

You will find some important general options for MAXQDA under **Options** in the drop-down menu **Project**.

Options		
General		
Confirm deletions	☑	
No duplicate code names	☐	
Do not display code frequencies in Code System	☐	
Include subcodes in matrix of code frequencies	☐	
Import objects (diagrams)	☐	
Activate codes together with subcodes	☑	
Default weight		0
Max. number of codes in Quick List		20
Backup externals		
User interface		
Document System and Code System on left side (restart (	☑	
Large font (restart of MAXQDA required)	☐	
Reset user settings (will be executed with next start of MA	☐	
Update program automatically		
Search for updates	☑	
Time interval [days]		30
PDF and image documents		
Do not embed if larger than [MB]		5
Export		
Apply variable names "Textgroup" and "Textname"	☑	
Excel Format	XLS	

In the Options window you can assign attributes to the program

The settings available in the "Options" menu are basic settings that affect the way you work with MAXQDA. Each of these settings is described in the MAXQDA manual, but the following options are worth describing here, as they are relevant for working with documents.

Confirm deletions: This option allows you to set whether or not MAXQDA will require you to confirm any action removing an object from your project. It makes sense to leave this box checked, since deletions cannot be undone in MAXQDA. Your only option would be to revert to a backup of your project that was made before the deletion.

Import objects (diagrams): Checking this box causes visual objects embedded in text documents in RTF or DOC/X format to be imported with the documents. Be aware that some imbedded graphics are very large and can very quickly blow up the size of your MAXQDA project file!

Backup externals: Here you can set the standard folder where externally-linked files are to be kept and called up from. If you are working in a team or are running MAXQDA from a portable flash drive that is used on various computers, this option lets you ensure that the same path is set for the folder wherever you run the program.

Do not embed if larger than [MB]: Here you can set the maximum size for PDF and image files that are to be imported into your project file. Files that are larger than this size are put in the standard folder for external files. This option helps you avoid letting your project file get too large and unmanageable.

Tip: Audio and video files are always saved as external files rather than imported into the project file.

3.8 Importing structured documents

Overview

The preprocessor enables you to insert larger texts standardized and already pre-coded. If you have an interview, an online survey, or the contents of a discussion forum, you may quickly supply the text material with control characters and thereby create individual codes, codings, and documents immediately when inserting the material into MAXQDA.

Example: An online survey contained two questions and 100 subjects filled out the survey. One RTF file was created from all the entries which had been equipped with control characters. After the import of this single RTF file, all 100 texts are in MAXQDA (one text for every subject, e.g. with names ID1-ID100) and, for example, 2 code words "Answer to Question 1" and "Answer to Question2". All texts have already been coded according to these two code words.

Importing texts in a structured way

In MAXQDA one usually creates a text group and then inserts the desired number of RTF texts. With the preprocessor it is possible to insert any given number of texts in just one RTF file and MAXQDA will automatically recognize where to separate the texts. For the preprocessor in MAXQDA to recognize within a text where a new text begins the text has to be completed with the respective control characters.

The following syntax has to be used:

#TEXTTextname
describes the beginning and the name of a text. Until the beginning of the next text syntax the entire content of an RTF file will be assigned to an independent text in MAXQDA. The following text as a content of an RTF file would produce three texts in MAXQDA which would be named **Person A**, **Person B**, and **Person C**.

#TEXTPersonA
My birthplace is south of New York. I moved later.

#TEXTPersonB
I am from the Black forest and I am also going to stay there for a long time.

#TEXTPersonC
I am from a small town near Chicago. Not much larger than 200 people. It's about time I moved.

Make sure, that there are no blank spaces in between **#** and **TEXT**, as well as in between **TEXT** and Textname, and capitalize the key word **TEXT**.Save the file in RTF format. Close Word.

Tip: You can simplify this procedure considerably if you enter, for instance, **>** instead of **#TEXT**. For the text name it could be meaningful to insert a placeholder character first. After completing the entry you may substitute the placeholders with the key words (so, e.g., **>** with **#TEXT**) with the help of the **Searching and Replacing** function in Word.

In order to import this text into MAXQDA follow these instructions:

1. Create a document group (or use an existing one)

2. Right-click on the text group and select **Import structured document (Preprocessor)**.

3. Enter the save location of your file and confirm by pressing **OK**.

Importing pre-coded texts

Aside from the common import and separation into different texts, it is also possible to have the contents of a file directly coded when importing. This makes sense when your texts have a contextual structure that can be turned into codes in a meaningful way. For this the entry syntax has to look as followed:

#CODECodename
the content is placed here
#ENDCODE

Important: No blank spaces between the **#** sign and the word **CODE**, as well as between **CODE** and **CODENAME**; also make sure to capitalize the keywords (**CODE, ENDCODE**). It is also mandatory that you put a line break behind **#CODECodename** and **#ENDCODE**.

Tip: The entry procedure can be simplified by using the "Search and Replace" Word function.

The example given above could, meaningfully extended, look like this:

#TEXTPersonA
#CODEOrigin
My birthplace is south of NewYork.
#ENDCODE
I moved later.

#TEXTPersonB
#CODEOrigin
I am from the Black forest
#ENDCODE
and I am also going to stay there for a long time.

#TEXTPersonC
#CODEOrigin
I am from a small town near Chicago. Not much larger than 200 people.
#ENDCODE
It's about time I moved.
#ENDTEXT

When importing the lines as an .rtf file MAXQDA creates three texts (**Person A**, **Person B**, **Person C**), a code (**Origin**) and has already assigned the given passages to this code.

Practice example

About 30 participants worked together in an online seminar for 3 months and exchanged information through a discussion board. In order to better analyze the discourse which took place in the forum, the text is supposed to be imported into MAXQDA. If one were to proceed via copy and paste from the website and then manually code the material, it would take days, if not weeks. In this case you may also enter data from the database by adding a pre-processor control character, copying the result to Word, and then inserting it into MAXQDA. In this way it was possible, in just a couple of minutes, to import over 500 DIN A4 pages of forum entries into MAXQDA, separated by threads and pre-coded for authors; all ready for the analysis (incl. selective programming from database).

Importing from tables

The easiest way to import structured texts is with Excel. Let's say we did a survey of six people. We want to import the answers into MAXQDA, so that document groups, document names, and codes are all created at one time.

We would first create an Excel table like the one below:

	A	B	C	D	E	F
1	textgroup	textname	Reason for emigration?	Return planned?	Profession?	
2	men	Carl	I have no perspective in	No, i like it here.	carpenter	
3	men	George	My employer offered m	I don't think, because	specialist for taxes	
4	men	Frank	You earn more money in	Yes, I miss my friends.	interior decorator	
5	women	Liz	I feel better in southern	This depends on my ch	noone	
6	women	Ann	Private circumstances le	I can't imagine that.	cook	
7	women	Maria	My husband has relative	Yes, we want to go ba	medical assistant	

Example spreadsheet

For the this example, the first line must always contain the keywords "textgroup", "textname", and the code names. The first two columns contain the name of the text group and the name of the text as they should appear in

MAXQDA. The headings of the following columns contain the name of the codes that have to be applied to the text segments of the particular column. Each row contains the appropriate corresponding text.

Tip: The green color in the column headers is just there to make the visualization as clear as possible; this does not, however, have any affect on the import into MAXQDA.

To import this table into MAXQDA, we would right-click on the "Documents" icon in the Document Browser and select "Import documents from spreadsheet," or we could find the same option in the "Documents" drop-down menu.

You will then see a window wherein you can select the XLS/X document that you just creqated in MAXQDA. You will then be asked whether empy cells should be ignored or not. Choose "Yes."

Finally, the text segments will be imported and coded according to their position in the table:
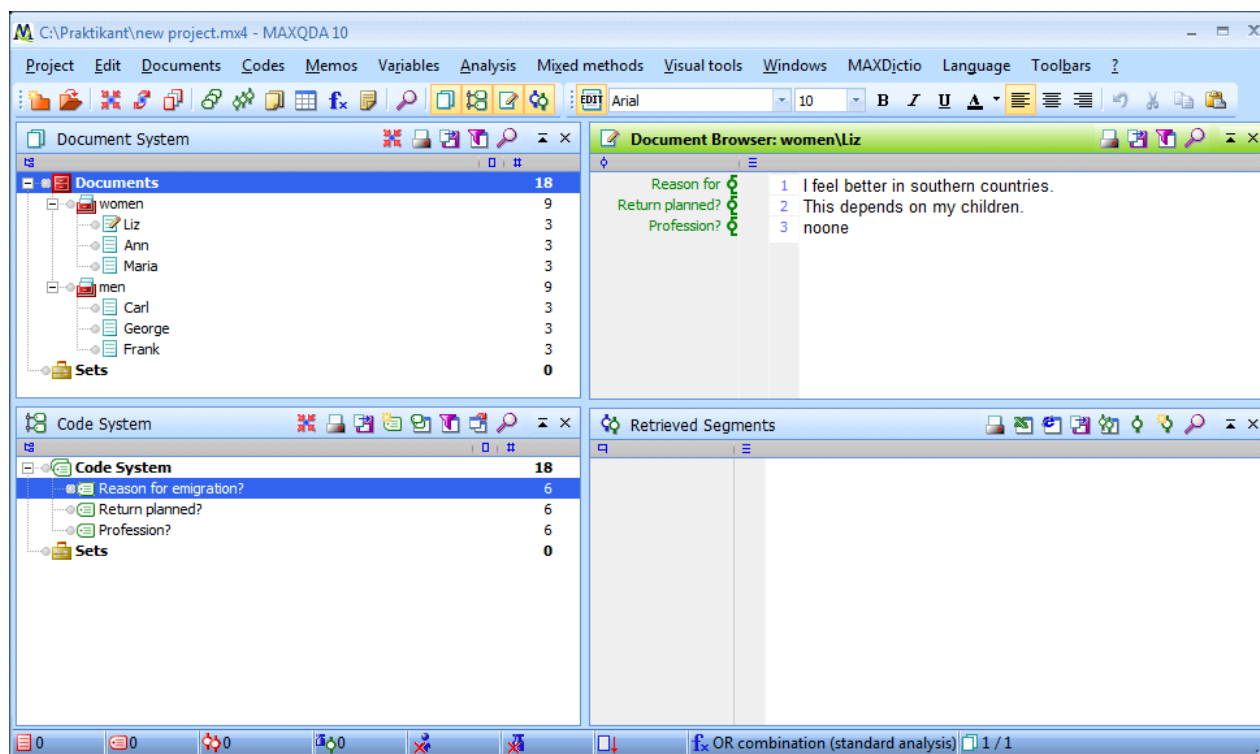
The four main windows after importing documents from a spreadsheet

All of the documents listed in the "textname" column in the Excel spreadsheet are now listed in the Document System, sorted according to the document groups you assigned in the "textgroup" column.

The rest of your column headers have been inserted as new codes and can be seen in the Code System.

4 Coding

4.1 Codes and coded segments

One of the main functions of MAXQDA is the assignment of a "code" to text. A code is a string of up to 64 characters, which is assigned to selected segments of text. Codes can be ordered into a hierarchical structure in the "Code System" window. When just starting a project this window is empty except for the **Code System** and **Sets** icons. On top of the code system, you'll see a tool bar that gives you quick access to functions often used.

A code is, in the language of empirical sociological research, a contextual category, which serves as an analytical tool for the systematic analysis of data. MAXQDA allows the definition of a hierarchical code system with up to ten levels. The number of codes is not restricted. A color can be assigned to each code and subcode.

The development of codes is user-controlled and is not automatically conducted by MAXQDA. The process of assigning text passages (or object) to one or several codes is called coding. Text passages assigned to a single code are called coded segments. You can always have MAXQDA show and list specific coded segments via text retrieval.

4.2 Creating codes

The "Code System" is shown as a tree structure on the screen. It looks like the file folder in Windows Explorer you are familiar with. A plus or minus sign in front of the code name indicated that a code contains subcodes. You can expand the subcategories or close them by clicking this button.

Defining a code is like opening a drawer in which you can put any number of text segments. The drawer's label, i.e. the code name, can later be changed without affecting the contents of the drawer. You can also print the "Code System" or export it.

To create a new code in the "Code System" on the highest level you can

❑ either click on the icon in the tool bar,

❑ use the shortcut **ALT+N**,

❑ or right-click on the and choose **New code**.

The following dialog box allows you to enter the name of the new code, assign it a color, and write a code memo.
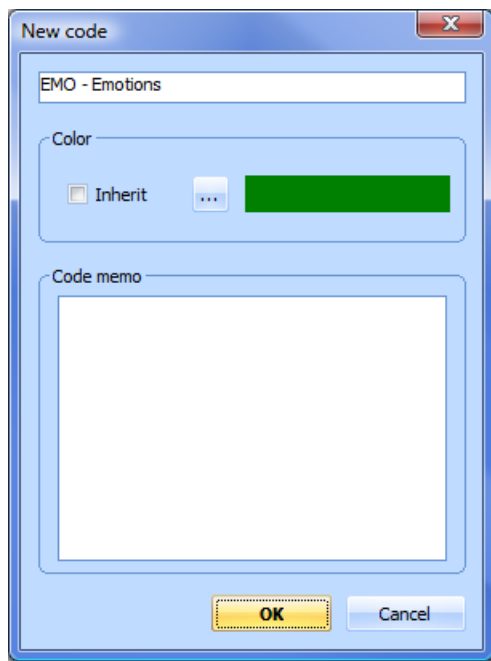
The window "New code"

Newly defined codes are always put at the beginning of the list (at the appropriate level, of course).
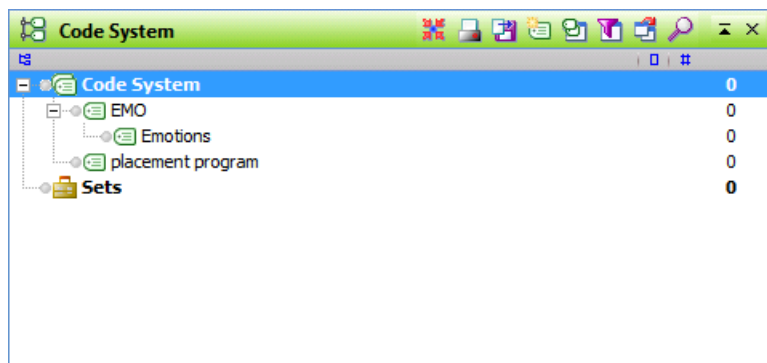
The "Code System" after inserting new codes

Defining subcodes

To define a subcode, simply click on the next higher code. You can then use any of the options mentioned above: either click on the symbol in the tool bar, press **ALT+N**, or select the option from the context menu.

In this way, we now want to setup the following three subcodes for the code "placement program:"

❑   preferred placement

❑   worst case scenario

❑   actual placement
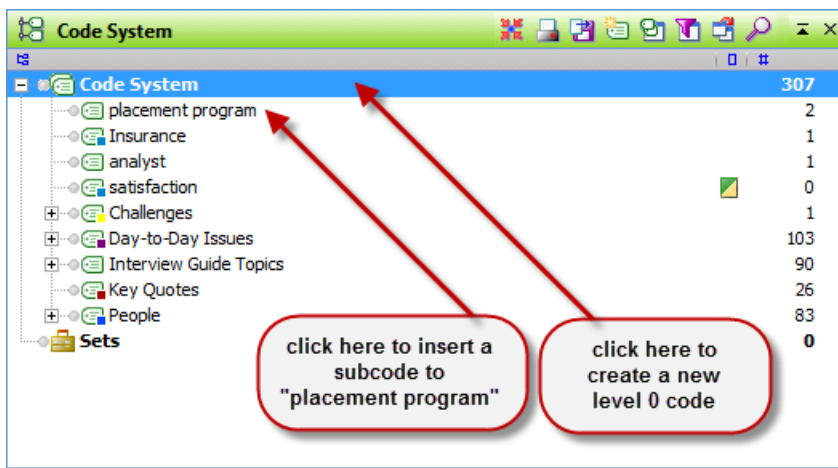
Inserting a new code

The order of the codes and subcodes in the "Code System" can easily be changed with the drag-and-drop mouse function.

You can also sort them alphabetically by clicking the menu option **Sort codes**.

Attaching colors to codes

A code can be assigned any given color attribute. The best practice would be to do this while defining the code, but it is also possible by later right-clicking on the code and selecting the option **Color**. The use of colors in MAXQDA has a analytical function; it is possible to demonstrate systematic differences between codes by means of visualization. The underlying system is freely defined by the researcher; the choice can be influenced by contextual (Topic A = blue, Topic B = yellow, etc.), methodical (phenomenological codes = red; theoretical codes = magenta), or other aspects. While analyzing focus groups it is possible, for example, to assign different colors to different speakers. When defining a subcode you have the possibility of it inheriting the color of the mother code by checking the ☑ Inherit box.

Code memos

Memos can be attached to codes. This can be done while defining the code, but also later by right-clicking the code of your choice and selecting the option **Code Memo**. Code memos serve an important function, especially for teamwork: you can enter definitions or anchor examples, which are always directly accessible. (See Chapter 8.2 Code memos).

4.3 Coding text

The assignment of codes to text segments in MAXQDA is called "coding." The smallest segment of text which can be assigned a code is one character.

Of course, one would normally select at least one word to assign a code to. Coding is possible in different ways, but you must always first select the passage of text with the mouse. MAXQDA offers different ways to do the coding:

❑ **Classical coding:** select a text passage and attach an existing code from the "Code System".

❑ **Free coding:** this is the typical style of initial coding in grounded theory – a new code will be attached to each text passage.

❑ **Targeted, selective coding:** text will be scanned for a selected code. When a text passage is found that belongs to the selected code, coding will be performed.

❑ **In-vivo coding:** the term in-vivo also comes from grounded theory and means that words or terms used by the interviewees are so remarkable that they should be taken as codes. In-vivo coding adds these terms of the respondents as codes and codes the text passage at the same time.

❑ **Color coding:** This works like highlighting a text passage in a book with a colored text marker. In MAXQDA four different colors can be used for color coding: RED, GREEN, BLUE, YELLOW or MAGENTA. The **Highlight coding** toolbar can be chosen from the Toolbars menu.

1. Classical coding

In order to assign a segment to a code you will have to mark the passage first:
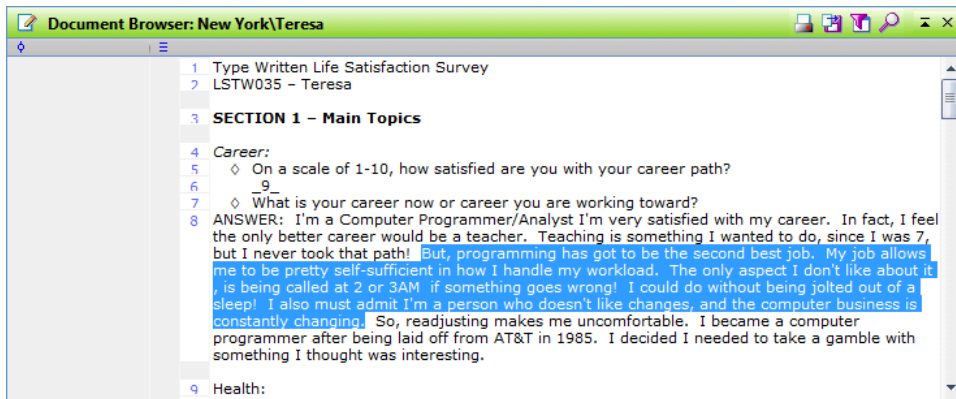
Marked text in the "Document Browser"

It is now possible for you to assign the passage to the given code via drag and drop (by keeping the left mouse button pressed and dragging the marked passage directly onto its assigned code). This step is also reversible, meaning that you can also drag a code to a marked text segment.

A text segment can be assigned multiple codes.
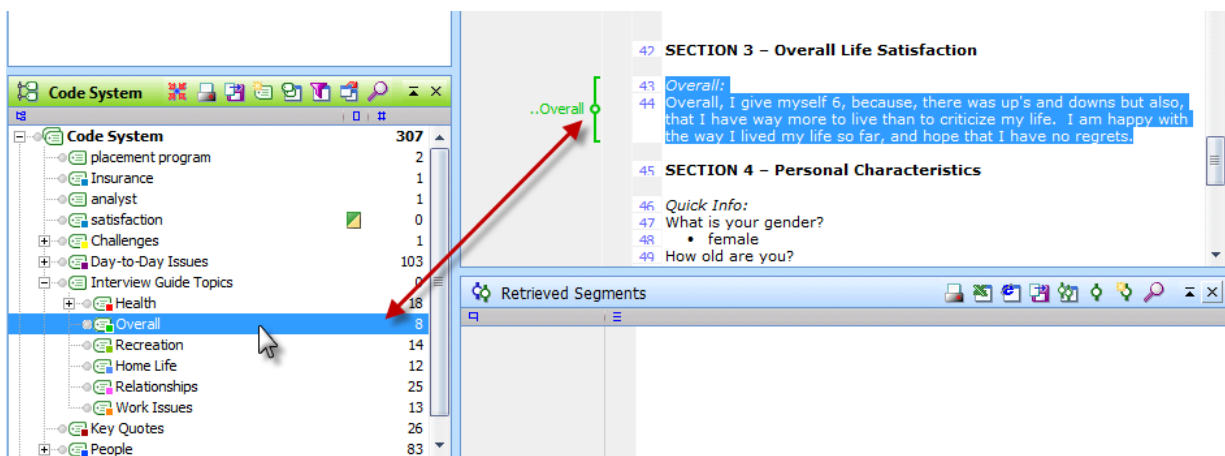
Coding via drag and drop

In the "Document Browser", coded elements will be highlighted with a colored visualization at the margin of the text. By right-clicking on the square of the visualization and selecting the command **Delete**, you can delete the coding again.
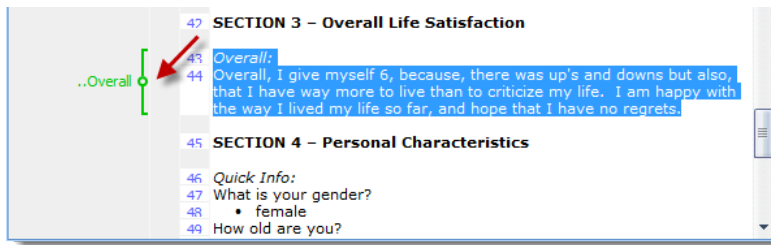
Code strip beside the text

The shortcut **CTRL+W** allows you to define and create a new code. This procedure is recommended if you, for instance, are working on a text and find a passage that you would like to code but you haven't created a fitting code yet. Simply mark the passage, create a new code using the shortcut **CTRL+W** and click **OK**: the segment will automatically be assigned to this new code.

2. Free coding

If you are working with grounded theory and you wish to assign a code, which does not yet exist in the "Code System", to a text passage, it is suggested that you use the shortcut **CTRL+W**. A dialog box will open where you can type in the name of this new code. The code will then be inserted into the "Code System". You can later on, if you choose to, move the code within the "Code System".

Instead of using the shortcut **CTRL+W**, it is also possible to open the context menu by use the right-mouse button.

3. Targeted, selective coding

This procedure is especially useful if you, usually in an advanced state of your analysis, want to target certain phenomenon's that have already been defined as codes while working on your texts. The "Quick list" above the "Document Browser" can be used for this purpose:
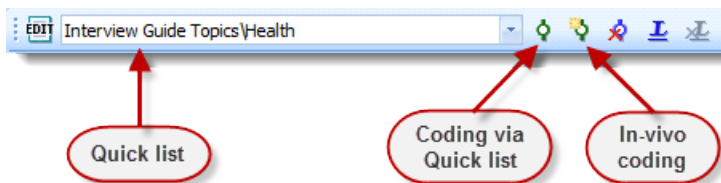
The "Quick list" is included in the toolbar "Code"

Left-clicking on a code in the "Code System" results in its insertion into the "Quick list". A marked text segment can be coded directly by pressing the **Code symbol** right next to the "Quick list" with the advertised code.

This procedure can also be conducted by using the shortcut **CTRL+Q**. After marking the text segment it is also possible to open the context menu via right-click and select the appropriate option.

4. Coding with the code favorites

If you are working with a more complex Code System, it can make sense to take advantage of the Quick List and the "Code favorites." The code favorites option lets you select exactly which codes are to be made available in a window, which you can then apply with a single click. You can move this window wherever it is most convenient for you (e.g. right next to the Document Browser). The code favorites can be uses as follows:

The new "Code Bar" is a new feature for quick coding. To add a code to the "Code Bar", right-click on the code in the "Code System" and **Add code to code favorites**:
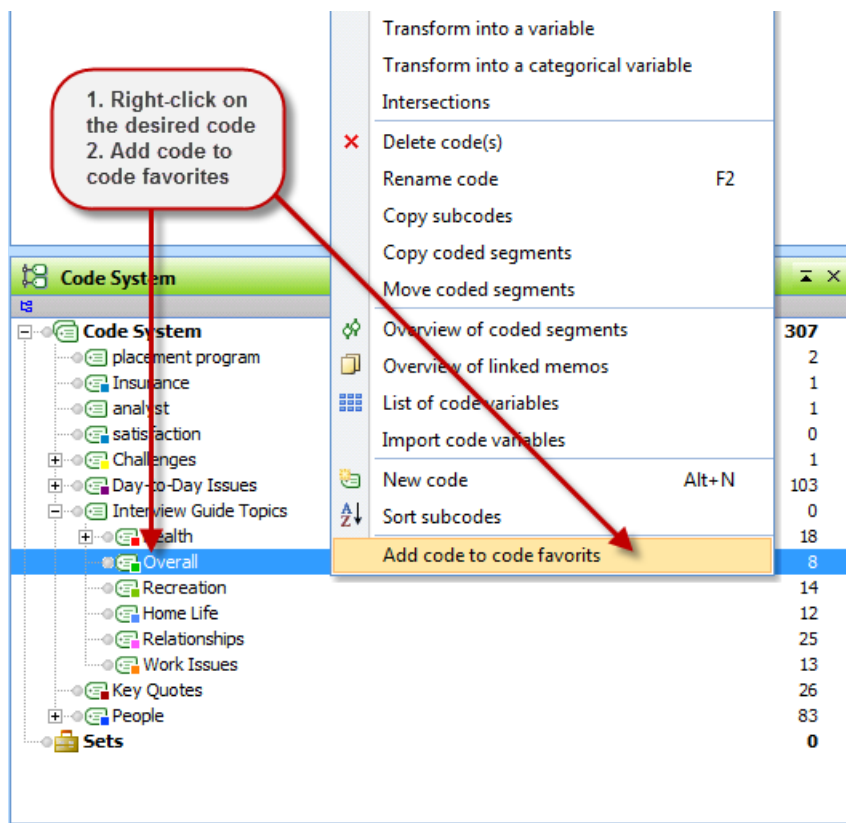
Code favorites facilitate the coding procedure

As soon as you add the first code, the code favorites window will appear. You can then place it wherever you want it on your screen:
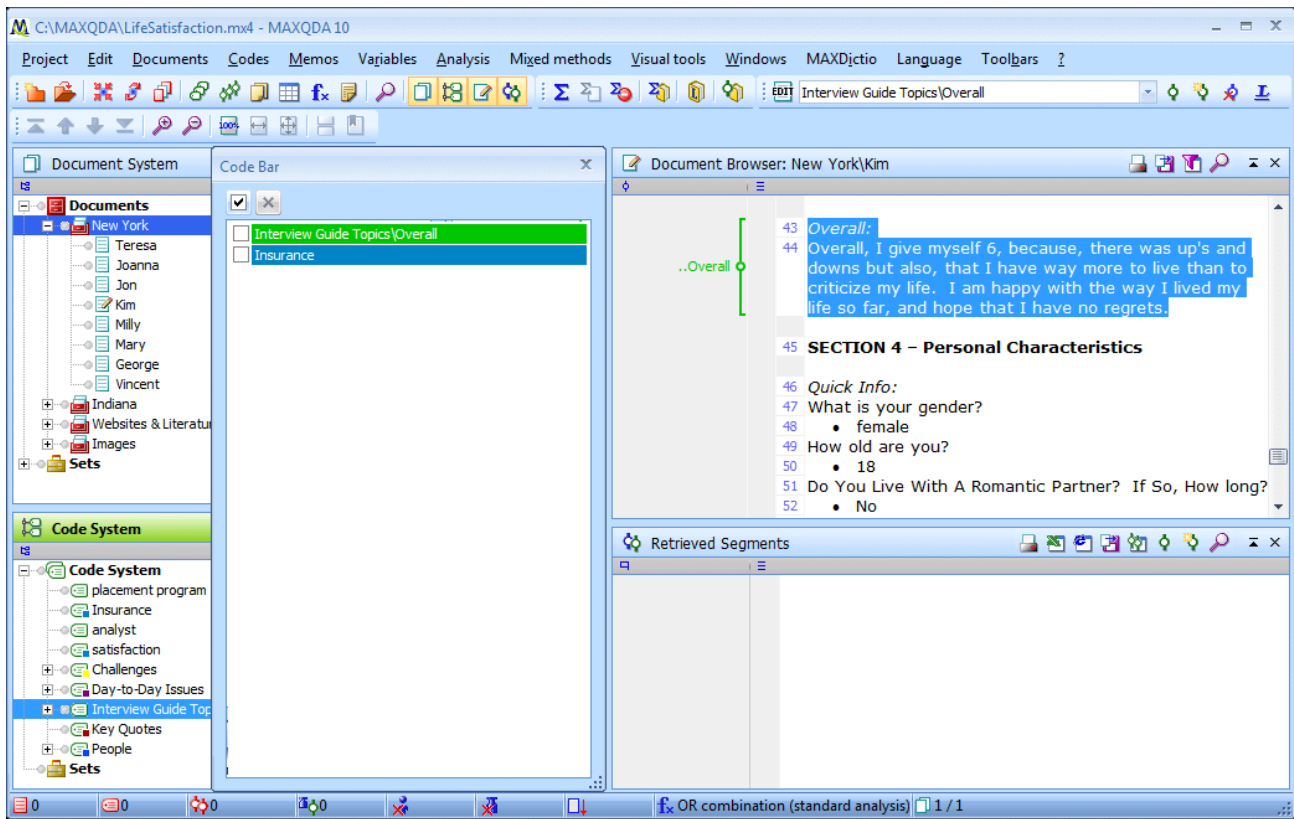
The "Code Bar" window can be arbitrarily adjusted

You can then highlight a text segment in the "Document Browser" and code it with one of the codes in the "Code Bar" by simply left-clicking on the code name. This is also extremely practical if you want to code a text segment with several of the codes.

To remove codes from the code favorites window, simply check the box next to each one that you want deleted and then click on the ✖ button.

5. In-vivo coding

The term in-vivo coding originated from grounded theory. It means that expressions and sayings from the text will be used as codes while, at the same time, the concerned text segment is coded.

In MAXQDA this happens in the following way: you mark the expression and click on the **In-vivo button** or use the shortcut **Ctrl+I**. The expression will be added to the "Code System" and the text segment will be coded. Should you choose to extend the coded segment, simply mark the text passage of your choice surrounding the in-vivo code and press the **Code button** ; you could also use the shortcut **Ctrl+Q**. MAXQDA will now change the coded text segment according to the new segment margins.

In-vivo coding can also be done by right-clicking and then selecting **Code in-vivo** from the context menu.

6. Color coding

Similar to traditional analysis done without a computer, it is possible to highlight segments of text with colors (RED, GREEN, BLUE, YELLOW or MAGENTA) and code them accordingly. This procedure is recommended for an initial, raw overview of the data material: you can mark important or noteworthy passages without yet deciding why they're important and what they should be coded as. The color-coding function is accessible by activating the **Highlight coding** bar in the Toolbars menu.

Toolbar "Highlight coding"

You can then mark the text and click on the color of your choice in the toolbar. This text segment will now automatically be highlighted that color and assigned the code **RED** (this code will be created automatically during the first assignment and inserted at top of the code system).

Later you can transfer the roughly-coded segments (coded **RED**, for example) to selected codes by using the activation function (see Chapter 5.2 Activating Codes) and choosing to only display text segments coded with **RED**. You can then drag and drop the retrieved segments onto the new codes. Of course you may also keep the collection **RED** and simply change its name.

4.4 Picture coding

After importing an image, you can double-click on the file in the "Document System" window in order to view it in the "Document Browser". To code a part of the picture, simply use your cursor to create a box (click and drag), and then drag the code from the "Code System" window to the box. You can also choose to right-click on the box and select one of the coding options from the menu as shown below.
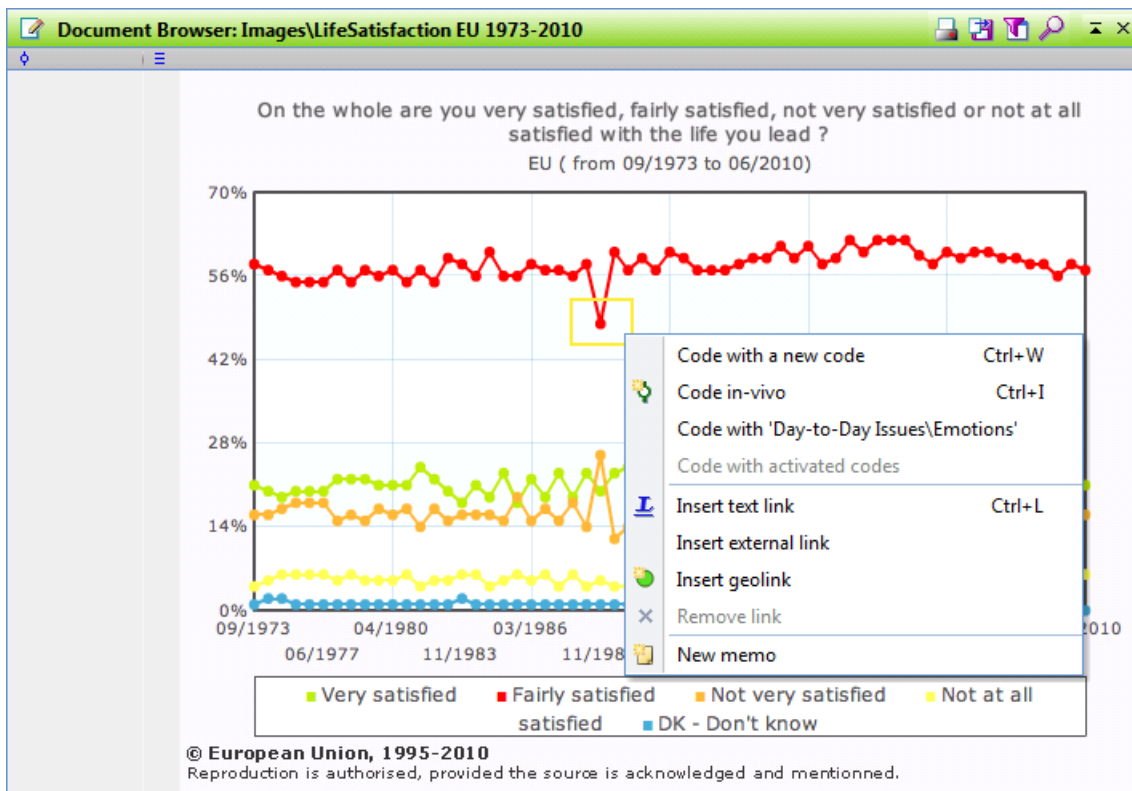
Codes can be assigned to a marked region in a picture via right-clicking

4.5 Organizing the code system

Deleting codes and coded segments

It is possible to make changes in your existing "Code System" at any time. To remove a code, simply right-click on it and choose **Delete codes(s).** Be aware, though, that this also deletes all subcodes!

It is also possible to delete single coded segments by right-clicking on the little square symbol in the middle of the coding strip of a coded segment and clicking **Delete** in the context menu that appears.
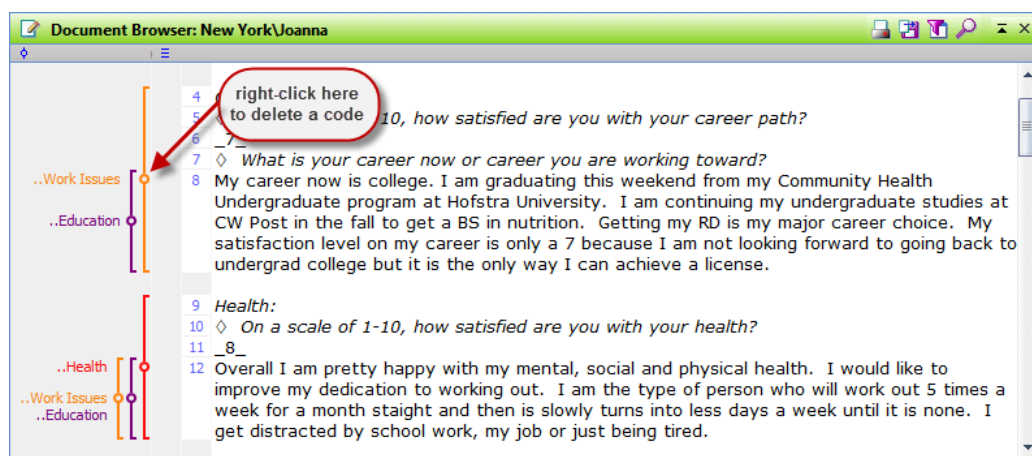
Deleting code after right-clicking on the code strip

Changing the structure of the "Code System"

You can change the structure of your code system by moving the codes. Simply drag a code with the left mouse button to the place of your choice.

## Copying parts of the "Code System"

It is not uncommon for codes to have the same subcodes. Given, for instance, that you have two codes "Opinions" and "Behavior" and you would like to define the subcodes "Work", "Politics", and "Family" in each of them. MAXQDA will save you the hassle of entering the subcodes twice. First, define the three subcodes for the code "Opinions", then right-click on "Opinions", and select **Copy subcodes** from the context menu; then right-click on the code "Behavior" and select the option **Paste subcodes** from the context menu. This option proves to be especially useful when working with different independent team members and wanting to have the complete category system available for all of them.

4.6 Coding with Weight Scores

In some cases, it is helpful to be able to assign relevance scores to coded segments. One could use these scores, for example, to indicate that the segment is an especially good example for that particular code or theme.

The weight score for coded segments in MAXQDA can be set from 0-100, and unless otherwise indicated, each coded segment receives the standard weight, which is set to 0. You can change the default weight score in two ways:

1. Change the default weight score in the "Options" menu: The options menu can be found in the "Project" drop-down menu. Here you can enter a number from 0 to 100 to be automatically assigned to all new coded segments.

2. Change the default weight score in the status bar: The status bar is located at the bottom of the screen and shows the current default weight score. Double-clicking on the symbol allows you to enter a new default weight.
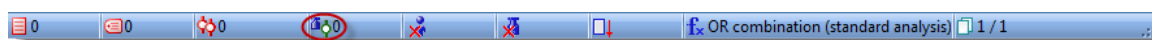
Changing the standard weight via the status bar

Tip: It makes sense to have the default weight score as 50, because you can later increase or decrease the score. If it is set to 0, the score can only be increased.

If you want to change the weight score for a single coded segment, you can right-click on the coding stripe in the Document Browser and choose to "Modify weight:"
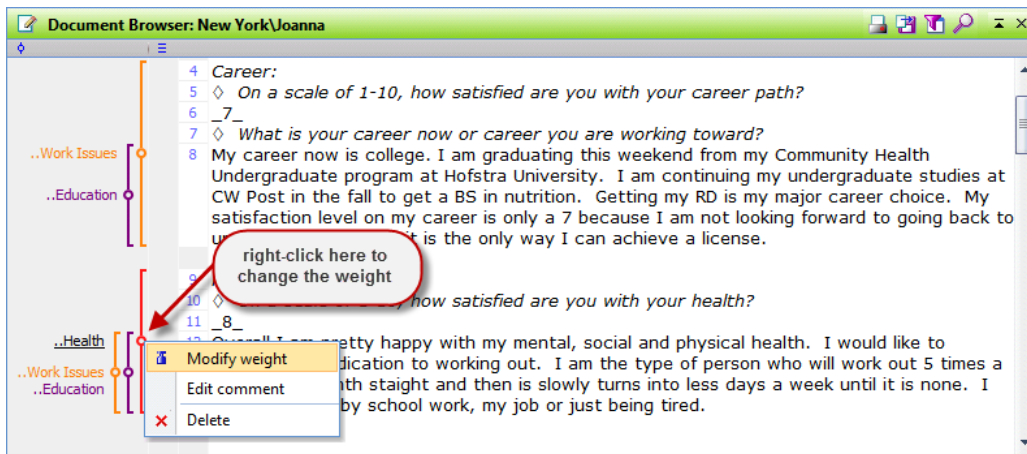
Changing the weight by right-clicking on the coding visualization

You can enter the new weight score in the window that appears:

Choosing the standard weight

4.7 Visualization of Code Segments

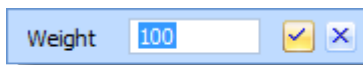The visualization of a newly-coded segment is recognizable in the coding section in front of the text. The visualization of the coded segments has the same color as was assigned to the code (default= green). Via context menu in the "Code System" window it is also possible to assign a color attribute to a code at a later time.
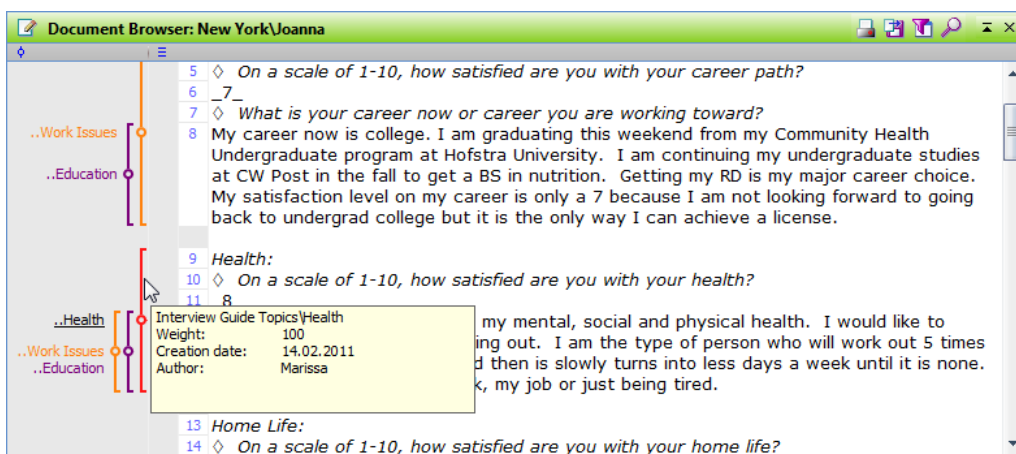
Tooltips pop up after moving the cursor on the code

By moving the mouse cursor over a coding strip a box will appear, giving you information about the code, its weight, creation date, and author. Clicking on the visualization will highlight the code in the "Code System" window.

Should you choose to view only specific codes, MAXQDA offers you an array of options. By right-clicking on the grey area of the coding section a context menu will open.

You can now select to view the visualization:

❑   of activated codes,

❑   of codes by a certain user or

❑   of codes with a certain color attribute.

All of these options are available in combination with each other and it is also possible to blend out all visualizations. Furthermore you can blend-in or blend-out the title, as well as the author and date in the box.

The type of representaion can be defined in the visualization sector of the context menu

The selection window for the visualization will also appear if you click on the icon in the tool bar above the "Document Browser".

4.8 Undoing Coding Actions

If you realize that you have coded sections of documents that incorrectly or simply decide you don't want it coded any more, you can choose to do undo that coding.

The easiest way to do this is with the button next to the Quick List:
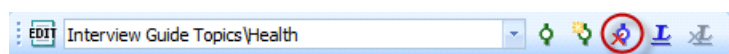
Button "Undo code"

Clicking on this button opens up a list of all of the coding you have done during the current session. To undo one of them, simply click on it:

Undoing codes

5   Retrieving coded segments

The process of finding previously-coded segments and collecting them into a list of results is usually referred to as "retrieval." The principal behind MAXQDA's retrieval is simple: for each activated text, the text segments of the activated codes will be collected in the "Retrieved Segments" window.

The selection of codes and texts happens through the function of activation. **Activation** is a central function in MAXQDA, which allows highly selective access 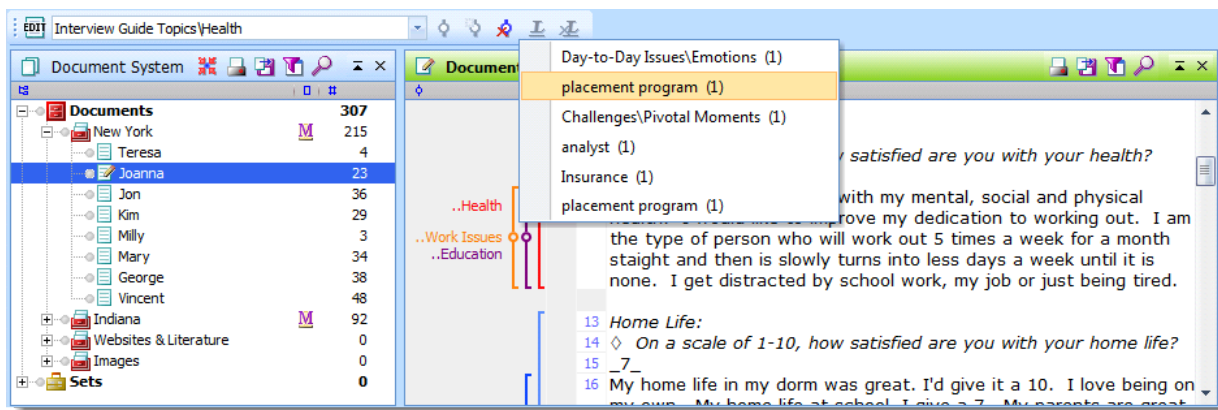to your data and enables you to conduct a quick and efficient analysis even when working on very large projects and with complex searches.

5.1 Activating documents

As you already know, all your texts and text groups are displayed in the "Document System". To activate a particular text you may choose between two alternatives:

❑   Right-click on the text and select **Activate** from the context menu, or

❑   hold the **Ctrl-key** and left-click on the text name(s).
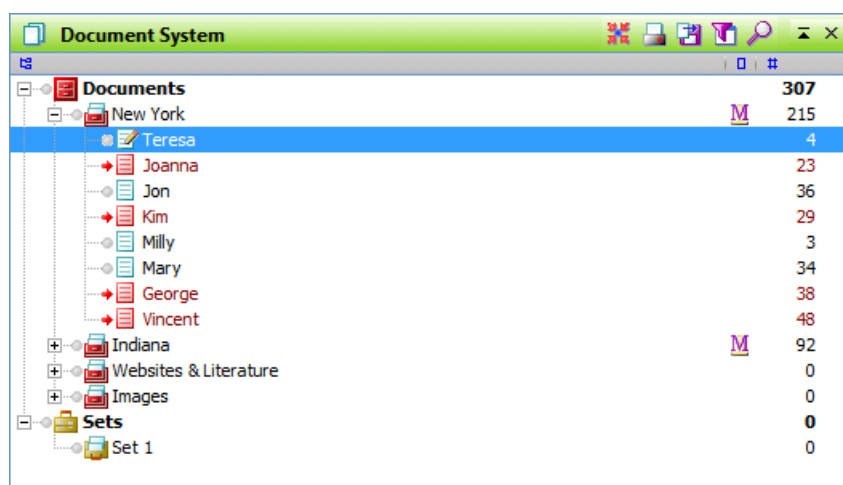
In this example the documets "Joanna","Kim","George" and "Vincent" are activated

You can activate all texts within a text group by holding down the **Ctrl-key** while clicking on the name of that text group. The names of activated texts are displayed in red, the inactivated ones in a bluish-green. Additionally, a red arrow points out activated texts.

5.2 Activating Codes

The activation of codes follows the same principle as the activation of text documents. Either you select a code using the right-mouse button and select the **Activate** option, or, as in working with documents, you left-click on the codes while holding the **Ctrl-key**.

Similar to the activation of texts in the "Document System", the color of the codes shows when they are activated: activated codes appear red and will be pointed out by an arrow.

At the bottom of the MAXQDA window there is a status bar which lists, from the left, the total number of texts and codes that are currently active, and the number of coded segments that have been retrieved:
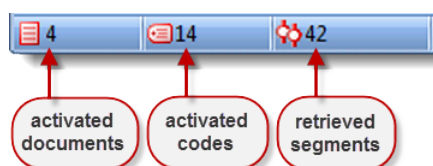
The status bar provides information abaout the state of activations and the corresponding results

5.3   The Retrieved Segments window

All of the coded segments retrieved through the selection or activation of certain texts and codes are shown in the "Retrieved Segments" window.

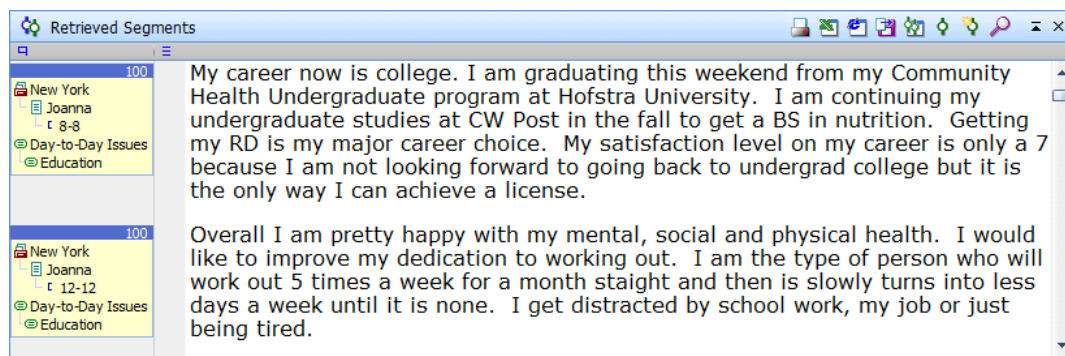*The "Retrieved Segments" window*

To the left of each text segment you can see the name of the text and the paragraph number from which the segment originates and which code was assigned to it. If a memo was assigned to the segment this will also be displayed.
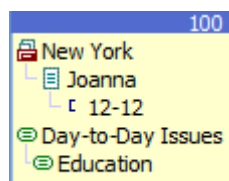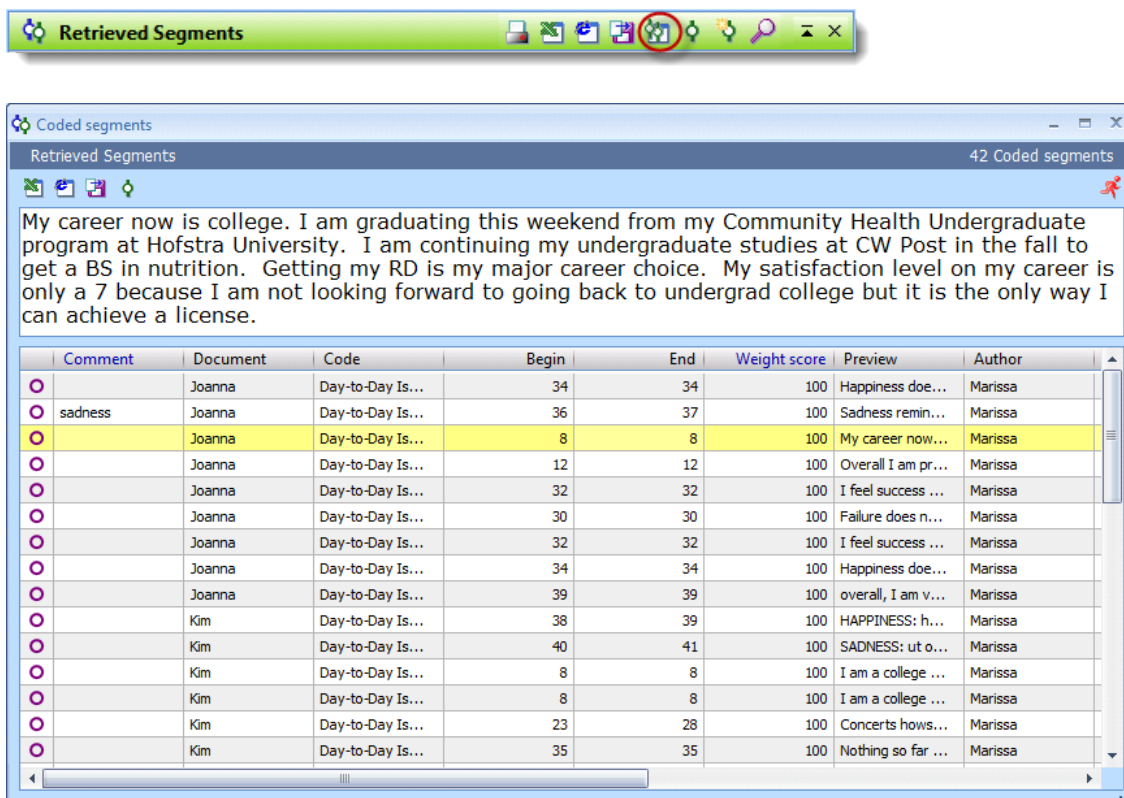
Tooltip

When you click anywhere on this box, the original text from which this segment was taken will be opened in the "Document Browser" window at the position of the coded segment. In the example above, the following information is given: the segment was taken from paragraph 12 of the text "Joanna" from the text group "New York". It was assigned the code "Day-to-Day Issues > Education".

You can also search for text segments that have been assigned more than one code. For example, you could search for the places where the respondents spoke about their "Personal Motivation" and their "Qualifications" in a group of interviews. More about this later.

A toolbar is located on top of the "Retrieved Segments" window where you have access to frequently-used functions. Here you can also switch to the overview of retrieved segments by clicking the icon.

Retrieved Segments

Table view of the "Retrieved Segments"

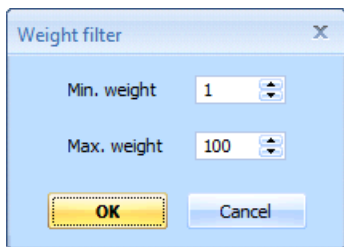|	Comment	Document	Code	Begin	End	Weight score	Preview	Author
○		Joanna	Day-to-Day Is...	34	34	100	Happiness doe...	Marissa
○	sadness	Joanna	Day-to-Day Is...	36	37	100	Sadness remin...	Marissa
○		Joanna	Day-to-Day Is...	8	8	100	My career now...	Marissa
○		Joanna	Day-to-Day Is...	12	12	100	Overall I am pr...	Marissa
○		Joanna	Day-to-Day Is...	32	32	100	I feel success ...	Marissa
○		Joanna	Day-to-Day Is...	30	30	100	Failure does n...	Marissa
○		Joanna	Day-to-Day Is...	32	32	100	I feel success ...	Marissa
○		Joanna	Day-to-Day Is...	34	34	100	Happiness doe...	Marissa
○		Joanna	Day-to-Day Is...	39	39	100	overall, I am v...	Marissa
○		Kim	Day-to-Day Is...	38	39	100	HAPPINESS: h...	Marissa
○		Kim	Day-to-Day Is...	40	41	100	SADNESS: ut o...	Marissa
○		Kim	Day-to-Day Is...	8	8	100	I am a college ...	Marissa
○		Kim	Day-to-Day Is...	8	8	100	I am a college ...	Marissa
○		Kim	Day-to-Day Is...	23	28	100	Concerts hows...	Marissa
○		Kim	Day-to-Day Is...	35	35	100	Nothing so far ...	Marissa

Coded segments — 42 Coded segments

My career now is college. I am graduating this weekend from my Community Health Undergraduate program at Hofstra University. I am continuing my undergraduate studies at CW Post in the fall to get a BS in nutrition. Getting my RD is my major career choice. My satisfaction level on my career is only a 7 because I am not looking forward to going back to undergrad college but it is the only way I can achieve a license.

In the top part of the table the complete text to the selected segment below will appear. This view is optimal for reading through the results of a text retrieval and inserting comments into the table. It is possible to directly export text segments into Word, Excel, or into a web browser, and continue working with them there.

5.4 Retrieval using the weight filter

MAXQDA also lets you use the weight scores as criteria for retrievals. The only requirement is that you need to have assigned weight scores (see 4.6 Coding with Weight Scores). To add this filter, select "Edit weight filter" from the "Analysis" drop-down menu. The following window will appear:

Weight filter

Min. weight 1

Max. weight 100

OK   Cancel

Editing the weight filter

You can then choose "Use weight filter" from the same drop-down menu to start applying the filter parameters you just set.

5.5 Export of the coded segments

Exporting the complete texts of the found segments to word is possible via the menu command **Codes > Export re-trieved segments**. You will achieve the same result with the menu command **Project > Export > Retrieved seg-ments**. An RTF file will be created, which you can now open with Word.

You can choose to export the coded segments as an XLS/X (Excel), RTF, or HTML file. If you only want to export the segments as they appear in the Retrieved Segments window, you can highlight them all with Ctrl+A, copy them with Ctrl+C, and the paste them into another document with Ctrl+V.

If you want to export the table overview, the fastest way is to press the [icon] icon in the table overview toolbar.

The presentation of coded segments as an HTML table is very clear and concise. This export function can be found in the Retrieved Segments window toolbar:

MAXQDA creates an HTML file, which will automatically open your standard browser after the export. However, you may also choose to open the file directly in Excel.

Tip: You can deactivate all codes and texts with the Reset activations icon [icon]. You should make use of this func-tion on a regular basis in order to prevent false results, which might come from the fact that you unintentionally ac-tivated (e.g. from an earlier search) parts of your data.

6 Complex text retrieval

The use of the **Text retrieval** function enables you to search for patterns in your data and view them in the "Retrieved Segments" window. The standard option is the Or-Combination, which looks for text segments in any activated text with any of the activated codes.

The text retrieval dialog box allows you to choose from nine different combination options. You can switch back to the default analysis in which the selection of codes happens through activation and all codes are included into the text retrieval by selecting Or-Combination.

Here is an example of how you can use one of the functions:

If you want to see all coded segments that are near to another specific coding within a specific distance, you'll want to use the "Near" function.

First activate all the texts that should be included in the search. The text retrieval window can be accessed

❑ in the drop-down menu **Analysis > Text retrieval**

❑ by clicking on the 𝐟𝐱 icon in the menu bar or

❑ by right-clicking in the grey area of the Retrieved Segments window and selecting **Text retrieval**.
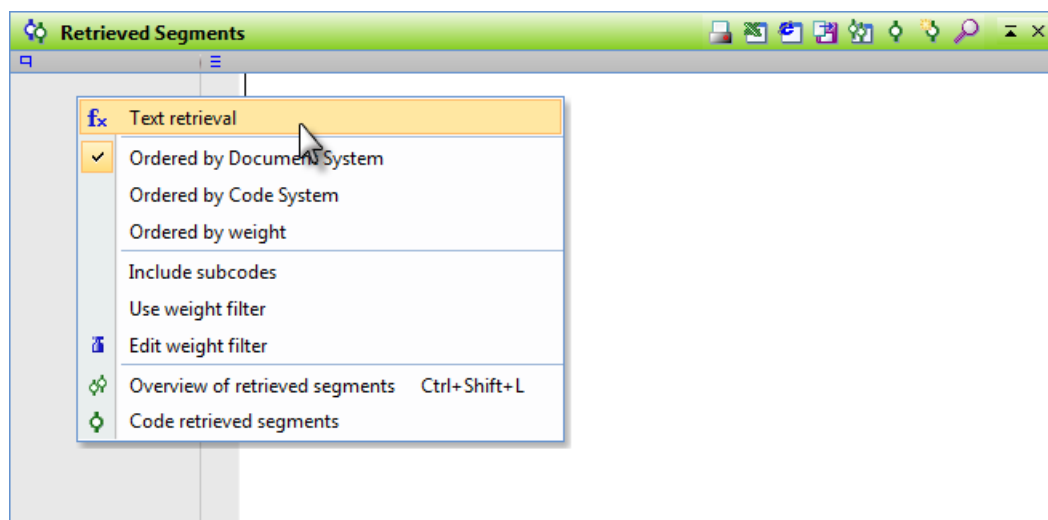
Different possibilities to activate the „Text retrieval" function

The following window is then opened:
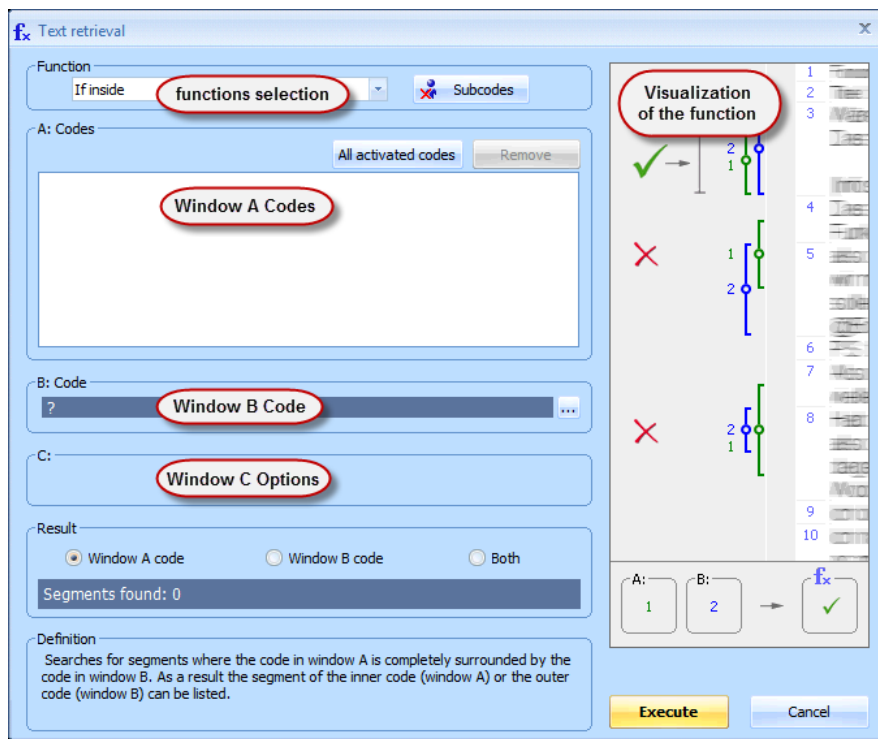
The „Text retrieval" window

The "Text Retrieval" window allows you first to select the function for the definition of parameters. By choosing one of the functions in the Function menu, you can see a visual explanation on the right side of the window, along with a written explanation at the very bottom of the window. This will clarify which calculations the function conducts. Windows A, B, and sometimes C are important for specifying which codes are to be used for the search. For the function "Near", one has to, for instance, specify which code has to appear in proximity of which other code and how large the maximal distance between the coded segments should be (in paragraphs).

❑   The selection window is set up as follows:

❑   In the top section of the window a selection list allows you to select the desired function.

❑   The function will be visualized on the right side.

❑   The selection windows A, B, and C allow you, according to the selected function, to select the codes and the definition of parameters.

Window A refers to the activated codes, which means that if one were to place a code into this window to, for instance, determine intersections with another code, both codes have to be activated first. The two codes will then be moved into window A after clicking on the button **All activated codes**.

The functions **Intersection** and **Overlapping** do not require any other parameters. You simply need to enter the appropriate codes in Window A and click **Execute** to start the text retrieval.

The windows B and C are active for more complex functions, where specific selections are being made. Window B works with the code "Quick list". For example, if we are testing whether there are text segments within the activated texts where the code listed in window A is completely inside the text segment, which has been coded with the code listed in window B.

Tip: If nothing is being shown in the Retrieved Segments window, it could be because you accidentally chose a retrieval setting other than the standard OR combination. You can check this by looking at the status bar.

Please consider this for complex text retrieval also: all functions of complex text retrieval only apply to activated texts

The following table summarizes the different functions:

| Function	Description
Intersection	Finds text coded with all of the codes in section A. The only text retrieved is that which is coded with all of these codes.
Intersection (Set)	Only lists those text passages where a minimum of x codes of the codes listed in section A are present. The only text retrieved is that which is coded with these x codes.
Overlapping	Lists instances where codes in Window A overlap. Coded segments that overlap with each other are shown in their entirety, rather than just that section that overlaps.
Only one code	Only text segments containing exactly one of the codes in section A are retrieved.
Only this code	Similar to „Only one Code", but only fort the code selected in section B. Only lists text segments where the code in section B but none of the codes in section A is present.
If inside	Text segments, that are coded with the code in section A and which are completely contained within a segment coded with the code in section B, are retrieved. Alternatively, larger section B segments are retrieved. Multiple codes can be selected in section A.
If outside	If text segments coded with codes listed in section A are completely outside of segments coded with the code of section B, the segments are retrieved.
Followed by	If text segments coded with code(s) in section A are followed by text segments coded with the code in window B within a distance of x paragraphs, the segment will be retrieved.
Near	If the code in section A and the code in section B are within a distance of x paragraphs, then the segment will be retrieved.

7   The search function and automatic coding

In MAXQDA you can search for specific words, parts of words, or strings of words with the help of the **Lexical search** function. The search procedures refer to

❑   the texts,

❑   the memos, or

❑   the coded segments, that are presently in the "Retrieved Segments" window.

The search can also be limited to the activated texts/documents. You may search in individual texts, in groups of texts, or also in texts whose variables are in accordance with conditions you define.

7.1 The search menu

The search function is started by clicking on the **Analysis** drop-down menu and selecting **Lexical search** or by clicking the 🔍 icon in the MAXQDA Toolbar.
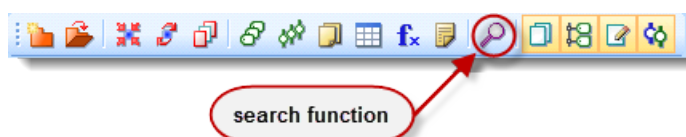
The search function in the "MAXQDA standard" toolbar

Afterwards you can export, explore, or even automatically assign your search results to a specific code word.

After selecting **Lexical search**, the following dialog box will appear:
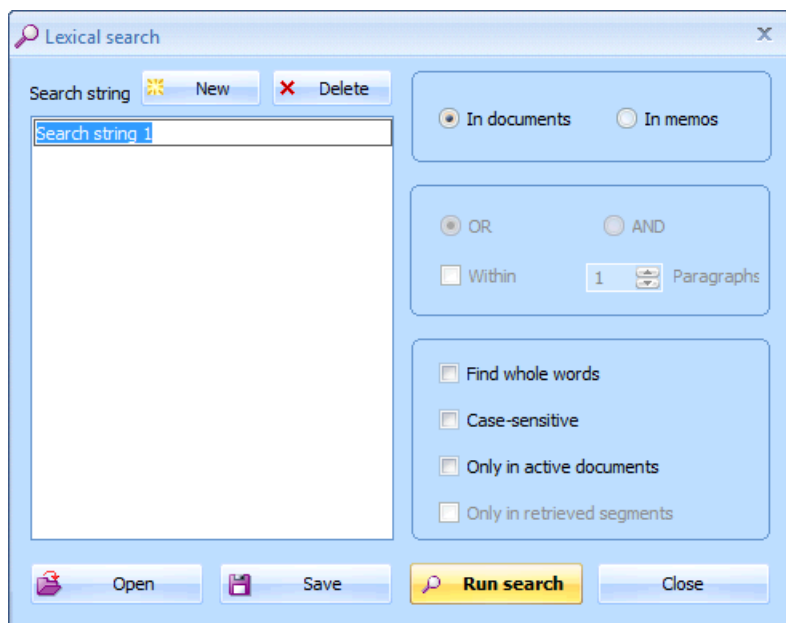
The "Lexical search" window

You can enter as many search words as you like into the empty window on the left side. To do so click on **New** and enter a search word or the search string you are searching for. The following wildcard characters are supported:

❑   **?** for a single character (e.g. *H?nks* for *Hanks*, *Hunks* or *Hinks*)

❑ * for multiple characters (e.g. *H*ks* for *Hanks* or *Hawks*)

❑ < for beginning of word (e.g. < *(inter)* for *Interest* or *interesting*, but not *winter*)

❑ > for end of word (e.g. *(ks)* > for *Hanks* or *thanks*, but not *Bankside*)

You can remove a search string by clicking **Delete** or change your search entries by double-clicking on them.

You have the option of searching **In documents** or **In memos**. If you enter multiple search words, you can decide how to combine them for the search function. **OR** leads to results in which at least one of the search words is contained. The option **AND** finds those text segments, which include all search words. In this case it is necessary to set the maximal distance within which the words must be to each other. (Example: List all text segments in which "fear" and "terror" appear within 2 paragraphs of each other).
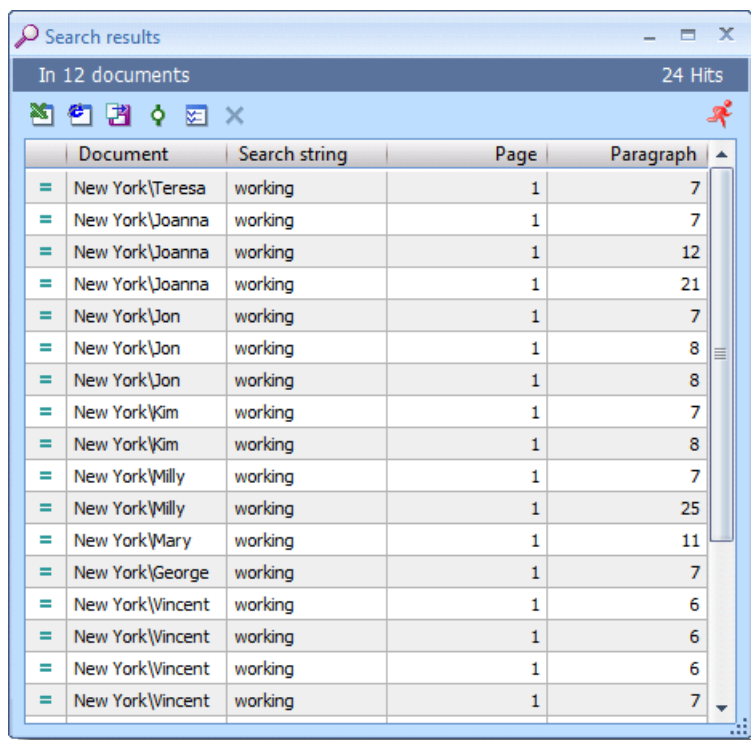
Other practical possibilities are options like **Find whole words**, **Case sensitive**, **Only in active texts**, or **Only in retrieved segments**. These options are especially useful if you want to narrow down your search.

The search will start after you click **Run search**.

Text search procedures can be saved by clicking on **Save**, entering a name for text search procedure, and clicking **Save** again. Text search procedure files will be saved with the file extension SEA (the abbreviation stands for search). Saved text search procedures may be opened again at any time.

7.2 The search result window

Depending on how much text must be searched, the search process might take some time. The search results will be shown in a separate window. On the top right the number of hits will be listed. The tabular overview allows you to sort your hits by clicking on the column headers. The most important function, however, is that by clicking on a hit, the corresponding text will automatically be loaded into the "Document Browser" window in the background; the concerned text segment is already marked, which is ideal for the exploration and analysis of your findings. This way you can read through hit after hit and, if desired, code them manually.

	Document	Search string	Page	Paragraph
=	New York\Teresa	working	1	7
=	New York\Joanna	working	1	7
=	New York\Joanna	working	1	12
=	New York\Joanna	working	1	21
=	New York\Jon	working	1	7
=	New York\Jon	working	1	8
=	New York\Jon	working	1	8
=	New York\Kim	working	1	7
=	New York\Kim	working	1	8
=	New York\Milly	working	1	7
=	New York\Milly	working	1	25
=	New York\Mary	working	1	11
=	New York\George	working	1	7
=	New York\Vincent	working	1	6
=	New York\Vincent	working	1	6
=	New York\Vincent	working	1	6
=	New York\Vincent	working	1	7

Search results — In 12 documents — 24 Hits

The list of search results

In the toolbar, located on top of the "Search results" window, a couple of important functions are available. The ⊠ icon and the ⧉ icon allow you to show the results as an Excel and HTML table.

7.3 Exporting the search result

The ⊞ icon allows you to export the results to an RTF, HTML or XLS/X document. The saved file will immediately be opened in the appropriate program (e.g. Word, Firefox, Excel, etc.) depending on the format you exported it in. The ⚲ icon allows you to automatically code the results; and the ⊟ icon allows you to change settings for the automatic coding or export.

Remember to decide before exporting, with the help of the options, if you would like to export the search string (word), the sentence, the paragraph or a certain number of paragraphs before and after the search string.
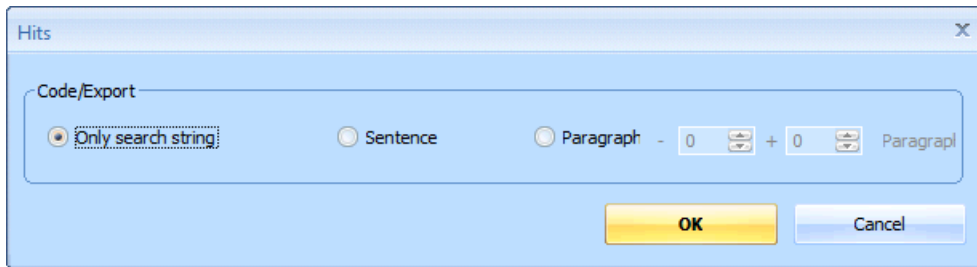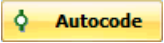

Options for exporting hits

7.4 Automatic coding

One especially handy option is to automatically code all of the places where the search string was found.
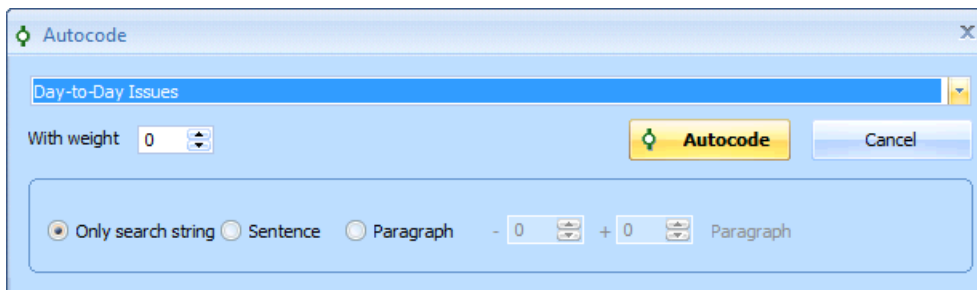

Options for automatic coding of hits

Sometimes it might make sense to code all of the text segments that were found in the search. MAXQDA can do this automatically. Simply click on the ⚲ icon and select the desired code from the appearing list. Only codes from the "Quick List" will be available. If the code you want is not there, simply click on it in the "Code System" first.

Before you click on the ⚲ **Autocode** button, you need to select what aspect exactly you want to code. You can code the search word, the sentence in which it was found, or even the entire paragraph where your search word appears. Usually it makes sense to code the paragraph in which the search word was found.

This procedure of automatic coding will most likely code unwanted hits as well. After completing the above mentioned code procedure you can easily remove these from the "Code System". Simply activate the newly created code as well as every text involved in the search. The results will be shown in the "Retrieved Segments" window, and you can delete any unwanted codings by right-clicking on the yellow box and selecting **Delete**.

7.5 The Context Searches in the Four Main Windows

Starting with MAXQDA10, you have the option of searching within each of the four main windows. You will find a magnifying glass icon in the toolbar of each of the four windows. You can use this search field to find text segments, document names, codes, coded segments, etc.
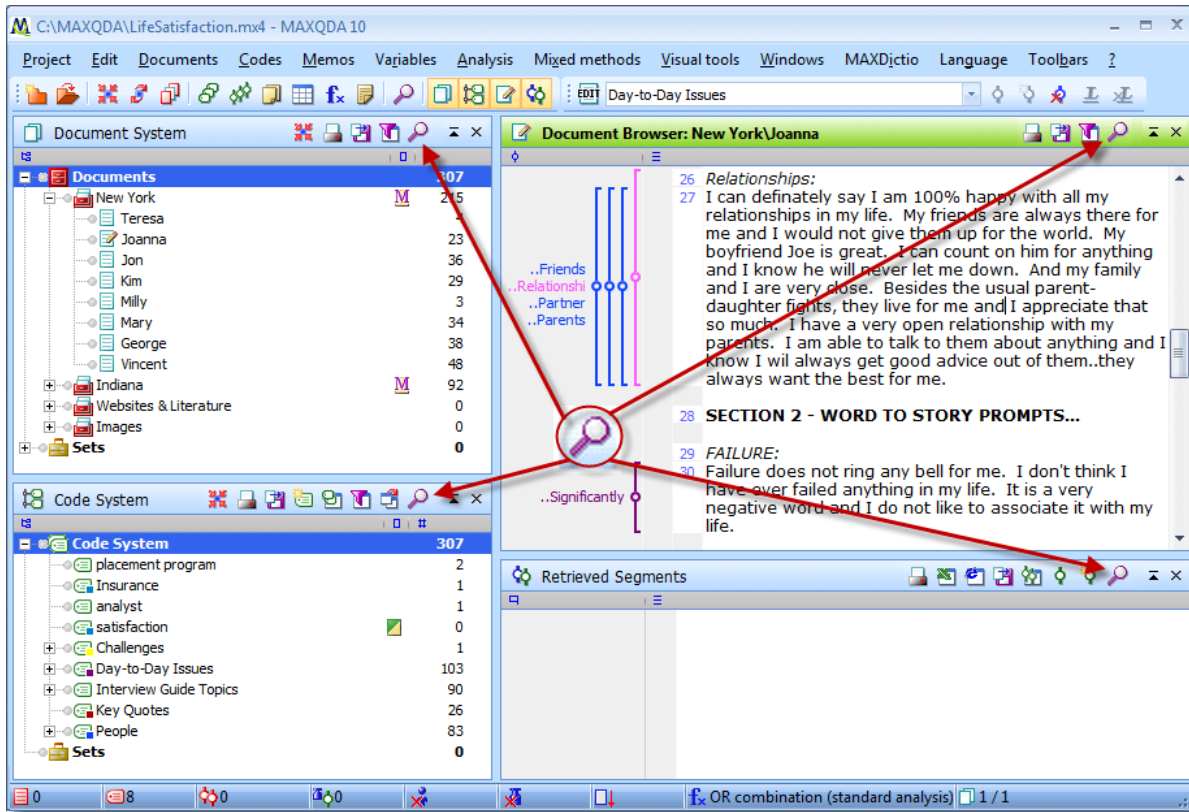
The search function is available in all four main windows

Context search window:
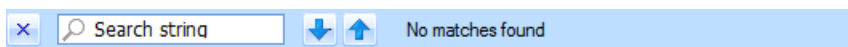
After typing in your search term, you will be able to jump back and forth between hits with the arrow buttons.

Tip: The search only works for the window in which you have called up the context search window – it does not search through the entire project.

8   Memos: managing your ideas

Memos are a classical, central instrument of qualitative text analysis and are especially significant in "Grounded Theory". The functionality of memos in MAXQDA has been extended far beyond the known possibilities of "tacking on" information to a text. MAXQDA gives the researcher highly effective and, at the same time, user-friendly options to create memos in various ways, to always have access to them, to administer them, and also to conduct lexical searches on all of them.

Memos can be assigned to a project, a document group, a document, text segments, or a code. Like the well-know Post-It notes, memos are illustrated in yellow. Free Memos are a new addition in MAXQDA10. They are assigned to the project as a whole rather than to a specific document, code, etc. They can always be viewed in the "Memo Manager" (see below).

8.1 Memos in the Document System

The first option for creating a memo is in the "Document System". Here you may write a memo about your project in which you can document the process of your research, the schedules, etc.

Values like age, gender, etc. are better attached as variables, since one can later use them as limiting values in the text retrieval. You can also assign a memo to a text group or even a single text. A text memo allows you to, for example, explain the origin of your text and write down important meta information.

Right-click the concerned document and select **Document memo** from the context menu:
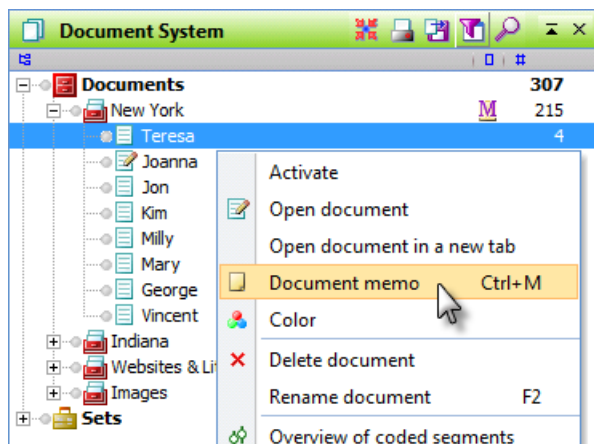

Right-click on a document to insert a "Dokument memo"

All memo entry windows in MAXQDA look identical, no matter where you want to attach the memo. There you can enter the author and a title (select a meaningful title; it will simplify finding it later!), select a fitting memo symbol (e.g.: ? for a question, ! for a definition, T, L, or M for a theoretical, literature, or methodological memo, or make up your own meanings for each symbol), and, of course, write the memo text.
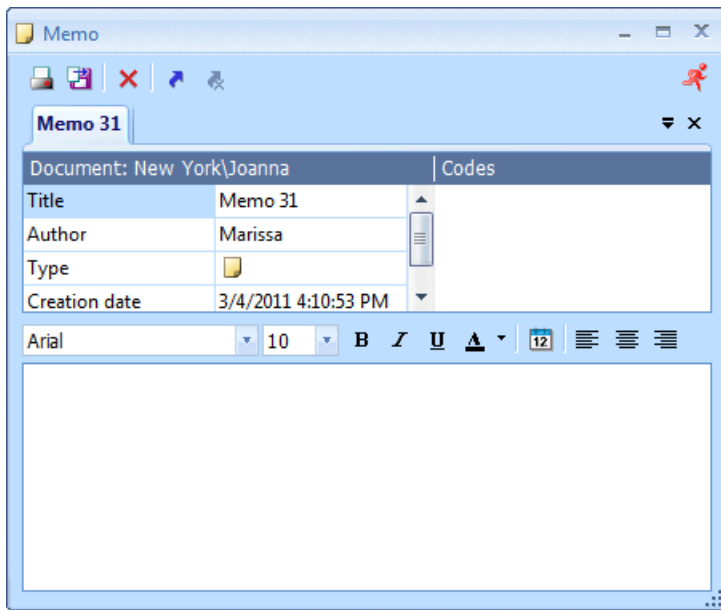
The Memo window

When you are done with your entries, simply click on icon to close the window. After closing the memo window, the memo will appear next to the concerned text in the "Document System" and may always be opened via double-click. You will also be presented with a content preview when holding the mouse over the **memo symbol**. For all the elements in the "Document System" you are only able to write one memo. The reason being that the presentation remains clear and organized and, when searching for a specific note, one does not have to look through a number of memos, thereby slowing your analysis process.
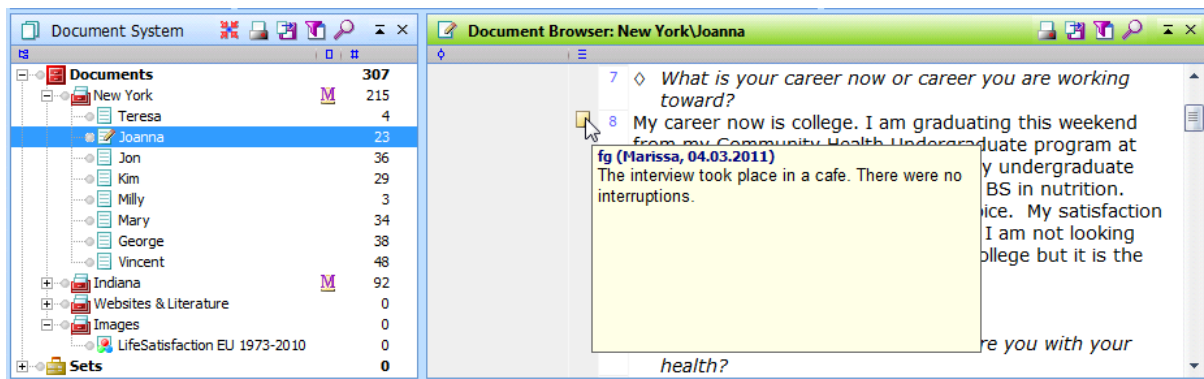

An abstract of the memo will be shown if the cursor points on its symbol

8.2 Code memos

In the "Document Browser", you can attach as many text memos directly into as many parts of an opened text as you want (e.g. to record concrete ideas or questions, literature, etc.).

In the "Code System", you can attach one "code memo" for each code and subcode (e.g. for code definitions or anchor examples). To insert a memo right-click on a code and select the option **Code memo**. An existing memo will be visualized with a yellow Post-It note there, as well.
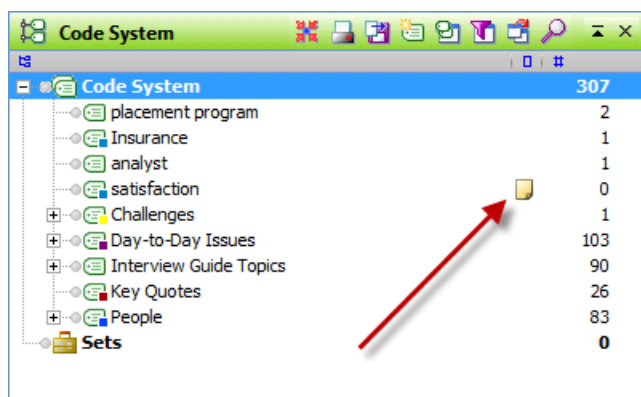
Visualized code memo

8.3 Memos direct at the document

In the "Document Browser" window, memos will be created, shown, and opened from the memo column next to the text, directly to the left of the paragraph column. If you want to attach a memo to any given text segment, double click on the memo column at this position or right click on the memo column next to the text and select **New memo**.
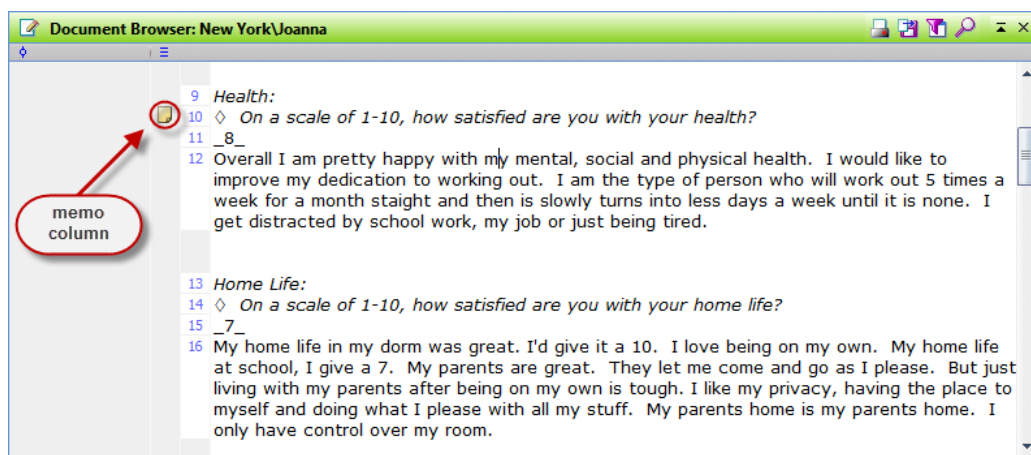
Memos are attached via right-click or double-click in the grey column left to the document

8.4 Linking codes with memos

Each memo can be assigned a code from the "Code System". To do this click on the corresponding symbol in the toolbar and select the desired code from the "Quick List". If a code is not in the "Quick List" you have to insert it by clicking on it in the "Code System".
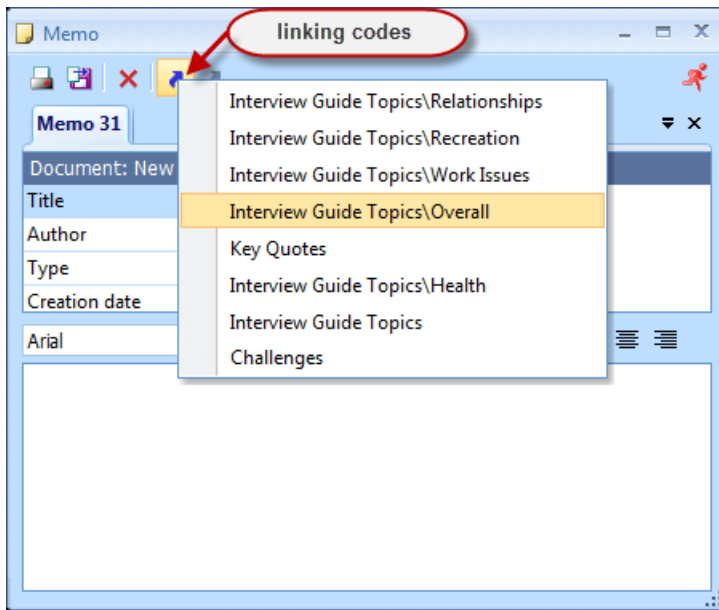
Memos can be attached codes from the "Code System"

8.5 Free memos

MAXQDA 10 lets you create memos that are not connected to any specific aspect of your project, but apply rather to the project as a whole. These are called "free memos." You might use these memos for basic information about the project, research hypotheses, research goals, etc.

Creating free memos is easy – just select "New free memo" from the "Memos" drop-down menu.
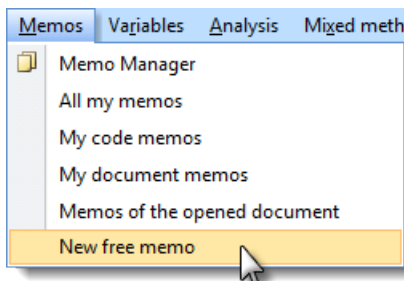

Free memos are valid for the whole project

These memos can be viewed or edited at any time in the Memo Manager.

8.6 Memo Manager

The Memo Manager is a table containing all memos that you have created. You can sort them according to the properties contained in the columns (name, memo type, etc.), open them by double-clicking on a memo row, edit them, if need be, or export the whole table.

If you attached a memo to a section of a document and then view it in the Memo Manager, the attached text will automatically be loaded into the "Document Browser" window and the concerned text or picture segment becomes visible.

The Memo Manager can be opened by clicking the ⬚ icon in the "MAXQDA standard" Toolbar. You can also call it up by selecting "Memo Manager" from the "Memos" drop-down menu.
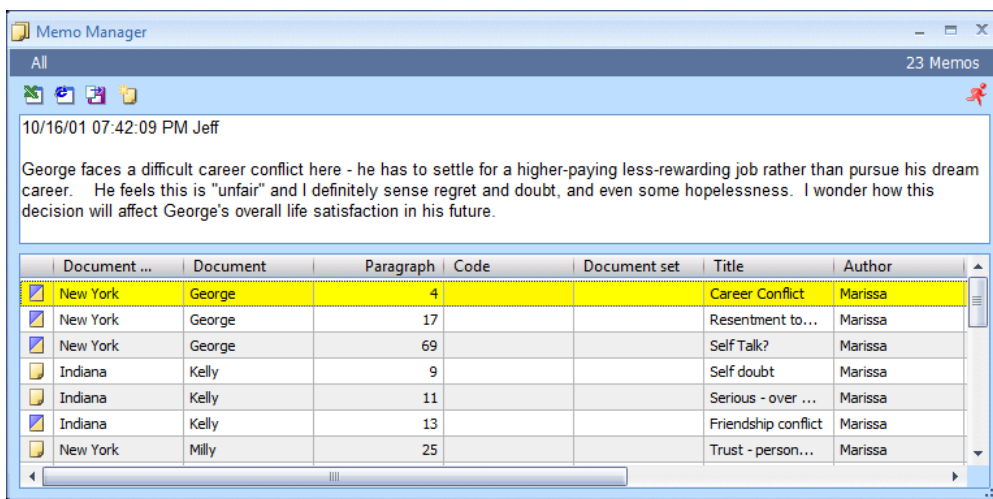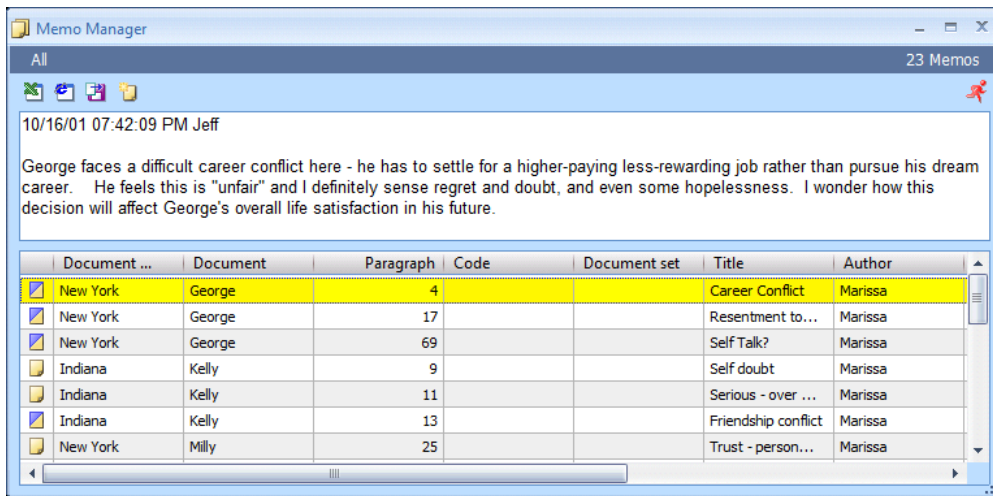
The "Memo Manager" gives an overview of all existing memos

By clicking on the individual column headers the list is sorted according to the various criteria. For example, you could sort by memo symbol, listing all memos with a question mark, for example, to clarify all open questions swiftly. A double-click on a line opens the memo window and lets you view the complete content of the selected memo.

Copying memos

If you'd like to re-use a memo within another text or at another text position, you can also right-click on the memo and choose **Copy**.
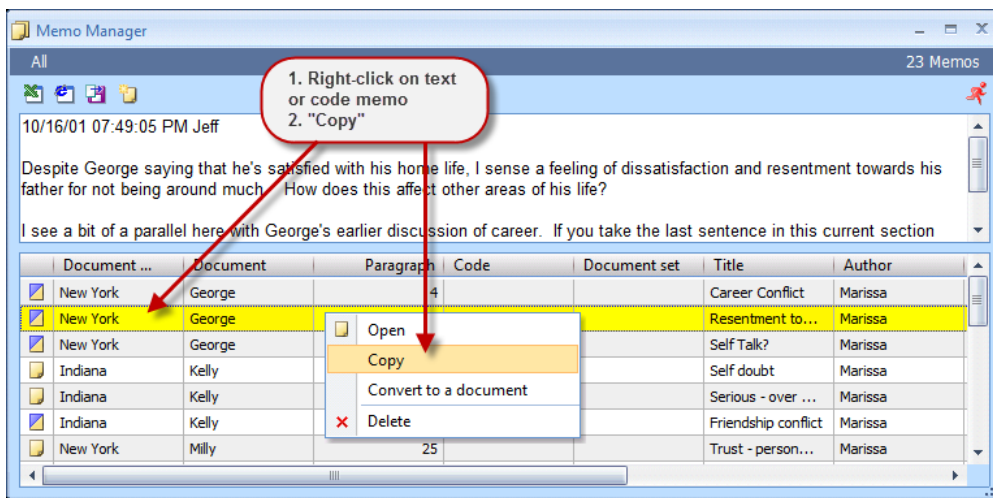
Memos can be copied and inserted at other places

Then, use the "Document Browser" to navigate to the new position, right-click the memo column and choose **Paste memo**. This will insert a copy of your memo which is editable without affecting the original memo.
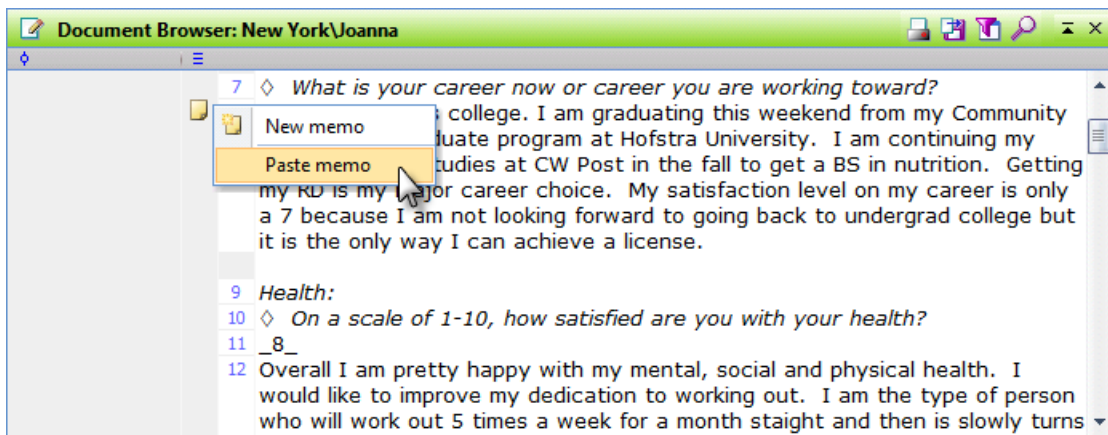
Copied memos can be insertetd via right-click on the memo column

Tip: The memos can be exported by clicking the 📇 icon. This function allows you to create either an RTF, an HTML, or an Excel file. MAXQDA exports all selected (highlighted) memos. If no memo is selected all memos will be exported.

The memos can also be highlighted and then copied to Excel or other programs via the clipboard. This does not transfer the entire memo content, however, but only a preview.

9   Links: linking your documents

9.1 Linking text segments and images

In order to point out a relation between two text segments, you have the option to link them to each other. Click on one of the two linked text segments and you will reach the other one. Text links enable you to connect two text segments with each other. They have the same meaning and serve the same function as hyperlinks in the internet, namely to connect two points: an anchor and a target. As soon as one clicks on the anchor of an existing link, the corresponding target will be loaded and vice versa.

The text links in MAXQDA can link text segments either from the same text or from different texts. In order to insert a text link, the first text segment – the anchor – has to be marked in the "Document Browser". The smallest unit you can mark is a single character, but in most cases, you will want to mark at least a phrase if not a sentence or paragraph.

After highlighting the text segment, click on the ⊥ icon or right-click on the highlighted text and select **Insert text link** from the context menu–the text segment will now be marked blue. Now, mark the other text segment (which can also be in another text) and, again, click on the ⊥ icon or select the option from the context menu. After the second text segment appears underlined, you are able to jump from one text segment to the other by clicking on either one of the text segments.
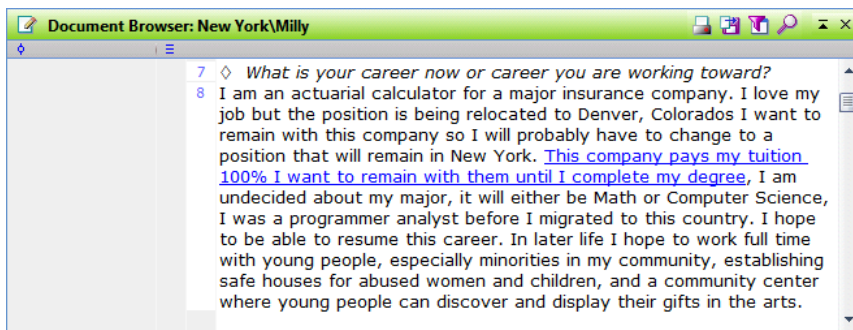
Text links are visualized blue and underlined

In order to remove an existing text link, right click on one of the two underlined text passages and select **Remove text link**. The other link partner will be deleted automatically.
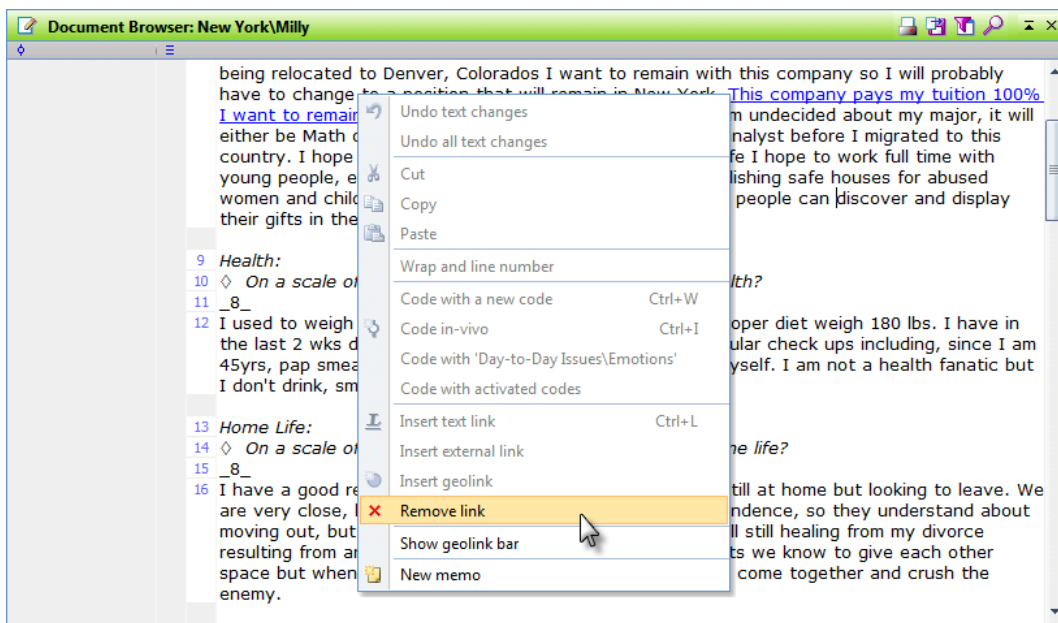
Text links can be removed via right-click

Tip: If you want to link more than two text segments, place another link directly next to the first link, which leads to the desired third (fourth…) segment.

In addition to having the option of linking from one text segment to another, you can now link a text segment to a coded section of an image. To do so, make sure that you are not in Edit Mode and highlight the text you wish to link. You can then either

❑   right-click and choose **Insert text link**,

❑   click on the ⊥ icon in the **Code** toolbar, or

❑   use the hotkey **Ctrl+L**.

Now double-click on the image file in the "Document Browser" and right-click on the code in the "Document Browser" and choose **Insert text link**.

You will now be able to go back and forth between the text segment and the coded image segment by clicking on either one.

9.2 Links to external documents and websites

It is also possible to connect a text or image segment to something outside of the MAXQDA project – this is then referred to as an external link. Clicking on this link will then open the document or website that has been connected with that text or image segment. You could, for example, link each speaker in a transcribed group discussion to a picture of that person or to a document with additional information about that person.

To create an external link,

❑   highlight the text or image segments,

❑   right-click on it and select "Insert external link," and

❑   choose the file to be linked to in the window that appears..

You can also link to a website:

1.   Open the website in your internet browser, highlight the URL, and copy it with Ctrl+C,

2. switch to MAXQDA, highlight a text or image segment,

3. right-click on the highlighted segment and choose "Insert external link," and

4. click "Yes" when asked if you want to paste the link.

9.3 Geolinks

Geolinks are connections between a text or image segment and a certain geographic location, allowing you to include geospatial information in your data analysis. A click on a geolink opens a program (usually Google Earth®) and takes you to that geographic location.
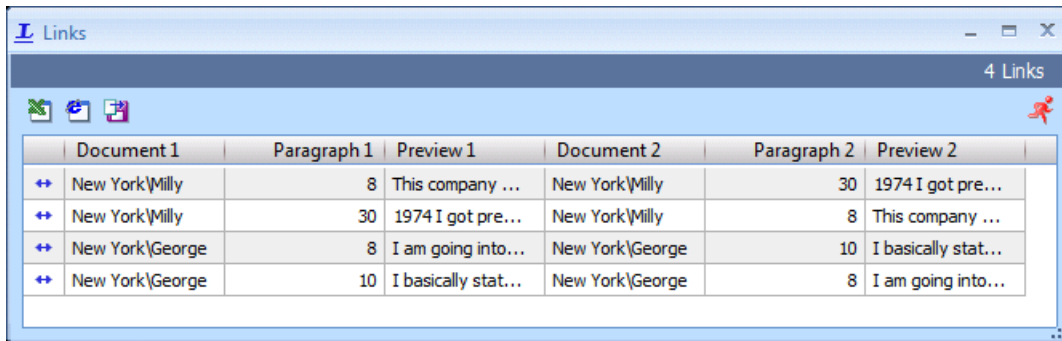
To insert a geolink, follow these steps:

1. Save the location in Google Earth® by clicking "Save" from the "File" drop-down menu. The location will be saved in a KML file.

2. Highlight a text or image segment in MAXQDA, right-click on it, and choose "Insert geolink."

3. Select the KML file from the window that appears.

The existence of a geolink is shown with a green ball in the geolink column next to the text or image in MAXQDA. You can toggle this column on and off by right-clicking on the document in the Document Browser and choosing "Show geolink bar."

9.4 Overview of links

Similar to the tabular overviews of coded segments and memos, MAXQDA offers an overview of all links in your project. Open the drop-down menu **Documents** and then select **Overview of links**. The overview lists all links with anchor and target. Clicking on a specific link will result in a jump to this text segment, which will appear in the "Document Browser". The links overview can be exported in XLS/X, HTML, or RTF format by clicking on the appropriate icon in the toolbar.

	Document 1	Paragraph 1	Preview 1	Document 2	Paragraph 2	Preview 2
↔	New York\Milly	8	This company ...	New York\Milly	30	1974 I got pre...
↔	New York\Milly	30	1974 I got pre...	New York\Milly	8	This company ...
↔	New York\George	8	I am going into...	New York\George	10	I basically stat...
↔	New York\George	10	I basically stat...	New York\George	8	I am going into...

The "Overview of links" associated to a project

10 Case variables and activation by variable

MAXQDA differentiates between document and code variables. More information about these two variable types can be found in the manual.
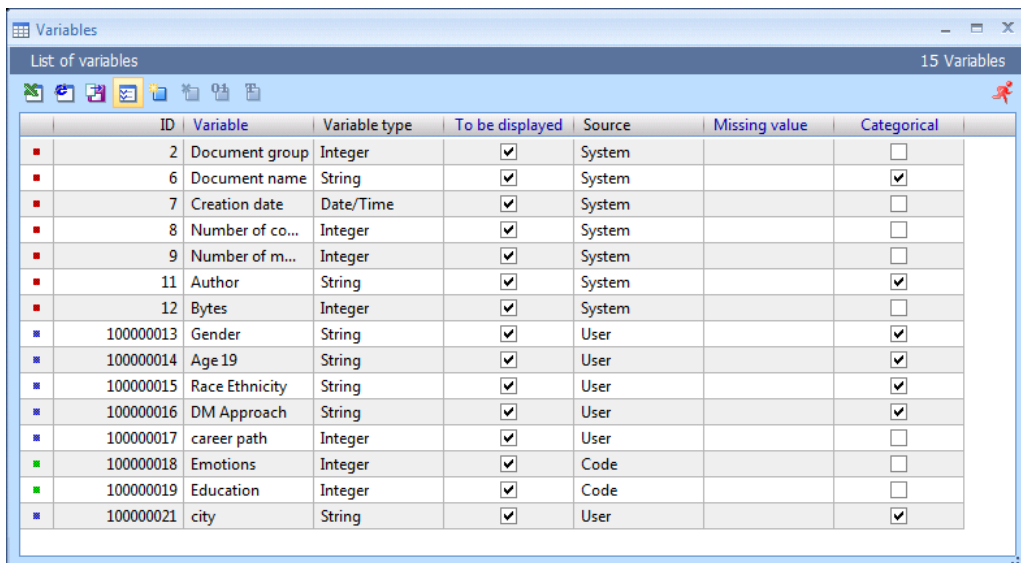
10.1 The list of variables

MAXQDA enables the administration of variables for every text, as is common in statistics programs. You can, for example, record relevant personal data and contextual information for a text or classify specific types of text and then code the texts according to their variable values. (For example, you could add a gender and an age atrribute for interview transcripts, so you could compare male interviewees of a certain age group to female interviewees of a specific age group.)

MAXQDA offers two different views: the standard variable view is called the **List of variables**, found in the **Variables** drop-down menu. The data view can be called up by clicking on the ⊞ icon in the "MAXQDA standard" toolbar or by selecting **Edit** in the **Variables** drop-down menu. You can switch between the two views by clicking on the 🗐 icon.

You will notice in the "List of variables" that there are already several internal variables that MAXQDA has already created for you, such as the "text size", "group", "author", "creation date", etc. You will see a total of seven of these standard variables, which will always be differentiated from the variables you create by the red square in the far left column. User-defined variables will have blue squares.

The toolbar at the top of the window includes buttons for creating new variables and switching between the two variable views.

In the "To be displayed" column, you can define which variables are displayed in the data view. When working with a lot of variables the tabular view might become somewhat confusing, so the option of displaying only selected variables can come in handy.

	ID	Variable	Variable type	To be displayed	Source	Missing value	Categorical
■	2	Document group	Integer	☑	System		☐
■	6	Document name	String	☑	System		☑
■	7	Creation date	Date/Time	☑	System		☐
■	8	Number of co...	Integer	☑	System		☐
■	9	Number of m...	Integer	☑	System		☐
■	11	Author	String	☑	System		☑
■	12	Bytes	Integer	☑	System		☐
✳	100000013	Gender	String	☑	User		☑
✳	100000014	Age 19	String	☑	User		☑
✳	100000015	Race Ethnicity	String	☑	User		☑
✳	100000016	DM Approach	String	☑	User		☑
✳	100000017	career path	Integer	☑	User		☐
■	100000018	Emotions	Integer	☑	Code		☐
■	100000019	Education	Integer	☑	Code		☐
✳	100000021	city	String	☑	User		☑

Varibles can be diplayed or hidden via the column "To be displayed"

10.2 Creating variables

To create a new variable, click on the ⬜ icon in the "List of variables." Next, enter a name for the variable, such as "Gender", "Education", "Marital Status", etc. and select the variable type. Five types of variables are available:

❑   String - for entering text (e.g. male, female, student)

❑   Integer - for entering a whole number (e.g. 1, 7, 3940)

❑   Floating point - for entering a number with decimal (e.g. 2.3, 453.5, 0.09)

❑   Date/Time - for entering time or date

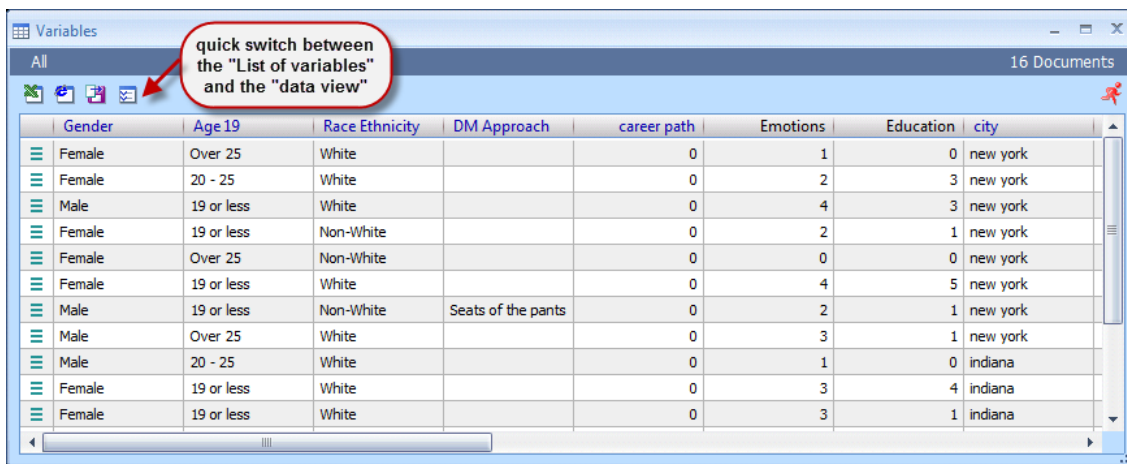❑   Boolean - creates a box, which can either be checked or left unchecked.

If you want to define the gender of each interviewee, for example, with the letters "m" and "w," you would want to choose the variable type "string." Keep in mind that it is not always possible to change the variable type at a later time. Numerical variables can be changed to string variables, but not vice versa.

This way you may define an (almost) infinite number of variables. The rectangular data matrix (documents * variables) can later be exported directly to statistical programs such as SPSS, SYSTAT, STATA or Excel.

10.3 Entering data

In order to enter data, you have to switch from the "List of variables" to the data view by clicking the ⬚ icon in the toolbar. In the data view, you will see all variables, which were marked as **To be displayed** in the "List of Variables" view. If hadn't previously been viewing the "List of Variables," you can directly access the data view by selecting "Edit" from the "Variables" drop-down menu or by clicking on the ⬚ icon in the toolbar.

The table in data view is similar to a data matrix found in SPSS or Excel.

It can be switched between the "List of variables" and the "data view" via a special button

Each row of the matrix corresponds to a case (document) in the "Document System". The variables are listed in the columns. This way you can enter one value for each case (text) and each variable. All variables can easily be imported/exported to/from SPSS and Excel.

If your variable appears in the overview (you might have to scroll the list further to the right), you can assign your document a variable value by double-clicking in the corresponding cell. The entering of values into a newly created variable is easiest, when you begin with the top row: double-click into the first cell, enter the corresponding value

and confirm with the **Enter** key. The cursor will now automatically jump into the next row and you may begin the entering of the next value.

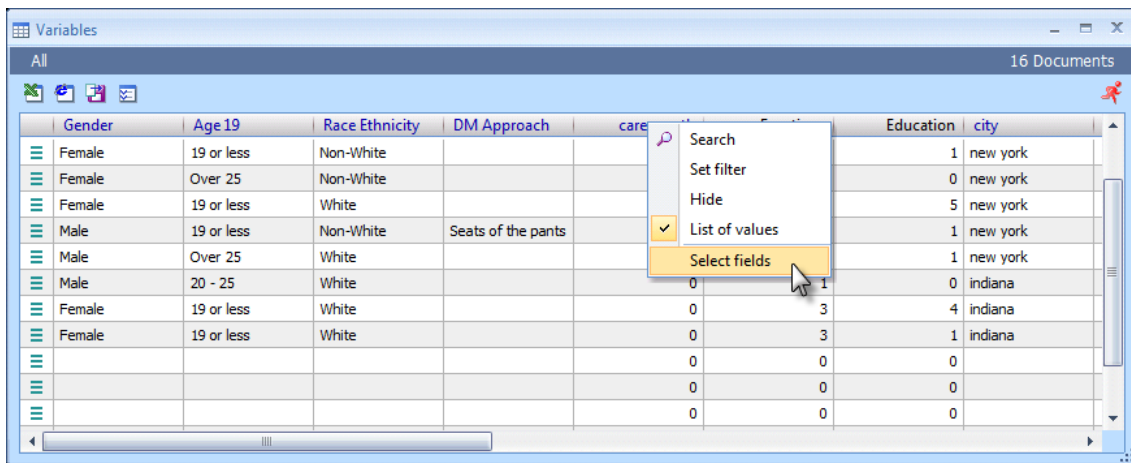*Inserting data into cells of the data matrix*

If you want to select a value that has already been entered previously in the same column, you can click on the arrow to the right of the cell and select the appropriate value from the list. This is especially useful if the variable values to be entered are rather long, as with job descriptions, for example. The list of values can be extended at any time; new values will be adopted into the list immediately.

By clicking on the **column headers** you can sort the existing variables. According to the type of variable selected, the sorting will be done alphabetically, numerically, or chronologically. Repeated clicking changes the direction of sorting. Similar to the "Document System", a text can be opened in the "Document Browser" window by double-clicking on a row in the variable window.

By right-clicking on a column header, you can access several additional functions:

The context menu can be opened by right-click

The **Search** function allows you to search for a certain value within the list of variables, such as a certain date in the "Creation date" column.

Hint: When searching within table fields, you will only find cells beginning with your search string. In order to find any matches, start your search string with a * as wildcard character.

The **Set filter** function allows you to filter out the texts that do not match a certain variable. By setting the filter for "Number of Memos" to "1", for example, you would be shown only those documents that have exactly one memo assigned to them.

Selecting the **Hide** option hides that particular column. In order to view this column again, simply switch back to "List of Variables" view by clicking the ⊠ icon and re-check the appropriate box in the "To be displayed" column.

If the option **List of values** is activated MAXQDA presents all existing values in a column as a list while typing in a new value for a document.

The **Select fields** function calls up a window, where you have the option to choose which columns should be displayed. The internal variables are red, and the variables that you have created are black.

Selecting fields

10.4 Importing and exporting variables

As in the data view, the variable view makes it possible for you to export your data in XLS/X, HTML, or RTF format in the toolbar.

It is especially helpful to be able to export the data matrix, because it can be directly imported into statistics programs like SPSS or SYSTAT for quantitative analysis. This export function is also available in the "Variables" drop-down menu by selecting **Export data matrix**.
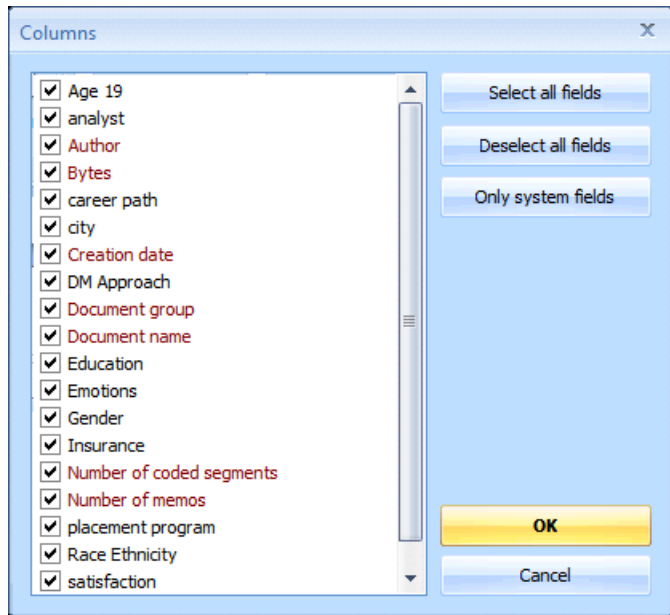
If you want to work with this data in SPSS, it is recommended that you choose to export in XLS/X format, since it can be imported without any formatting changes.

Attention: If you are working with an SPSS version older than version 13, any variable names longer than 8 characters or that include spaces will be adjusted automatically by SPSS.

To import the data matrix, follow these steps:

❑   Export the data matrix as an Excel file.

❑   If necessary, add new columns with the variable names as the column headers.

❑   Import the data matrix by clicking on **Import** in the **Variables** drop-down menu.

❑   Choose the appropriate format for each of the variables.
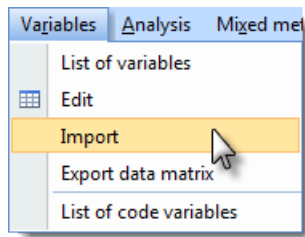
Documents from other programs can be imported to MAXQDA

11 Working with overview tables

MAXQDA offers a number of table overviews of various aspects of your project, and these tables can be worked with a lot like an Excel file.

Let's look at the following example, which is the case variable overview:

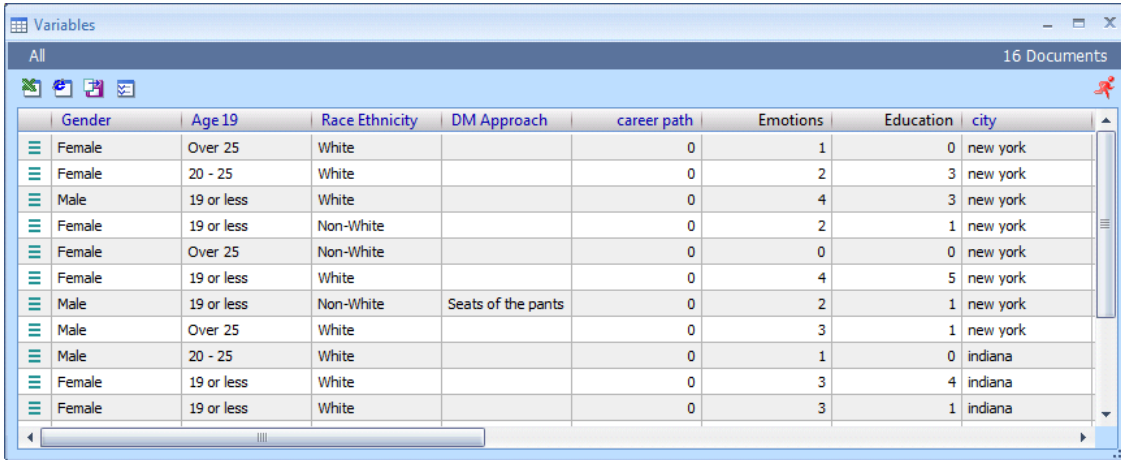|	Gender	Age 19	Race Ethnicity	DM Approach	career path	Emotions	Education	city
	Female	Over 25	White		0	1	0	new york
	Female	20 - 25	White		0	2	3	new york
	Male	19 or less	White		0	4	3	new york
	Female	19 or less	Non-White		0	2	1	new york
	Female	Over 25	Non-White		0	0	0	new york
	Female	19 or less	White		0	4	5	new york
	Male	19 or less	Non-White	Seats of the pants	0	2	1	new york
	Male	Over 25	White		0	3	1	new york
	Male	20 - 25	White		0	1	0	indiana
	Female	19 or less	White		0	3	4	indiana
	Female	19 or less	White		0	3	1	indiana

The "List of variables" in MAXQDA

Each table has a toolbar at the top, which gives you quick access to the most frequently-used functions. This particular table above, for example, has a toolbar with symbols for opening the table in XLS or HTML format, for saving the file in XLS format for use in SPSS, and for switching between table views. The 🏃 symbol is found in every table – clicking on it closes the window.

The column headers in the table above represent each variable, and the various font colors indidcate what kind of variable each one is.

The system fields or project variables are always in the table and include:
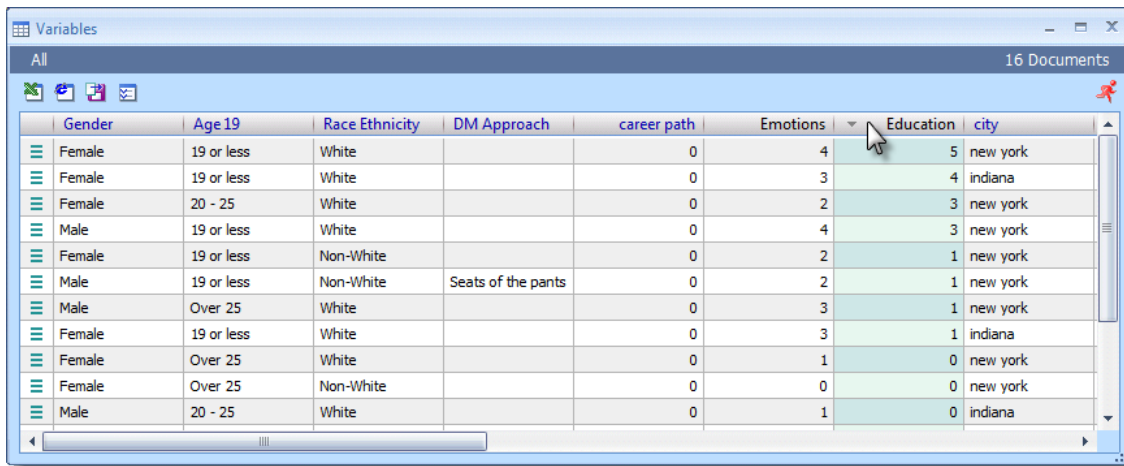
❑ Document group – shows the name of the group in which the document is found.

❑ Document name – shows the document name.

❑ Number of coded segments – shows the number of coded segments found in that document.

❑ Number of memos – shows the numerb of memos found in that document.

You can always change the width of each column individually by clicking on the column seperator and dragging to the right or left. Double-clicking on the seperator adjusts the column to its optimal size.

You can change the order of the columns by clicking on a column header and dragging it to a different location.

If you right-click on a column header, you'll call up a context menu. Here you have the option to hide certain columns that aren't currently of interest to you. You can call up a list of each of the columns and only check the box next to those that you want to view.

You can very easily sort the tables according to the values of any of the columns by left-clicking on that column header.

	Gender	Age 19	Race Ethnicity	DM Approach	career path	Emotions	Education	city
≡	Female	19 or less	White		0	4	5	new york
≡	Female	19 or less	White		0	3	4	indiana
≡	Female	20 - 25	White		0	2	3	new york
≡	Male	19 or less	White		0	4	3	new york
≡	Female	19 or less	Non-White		0	2	1	new york
≡	Male	19 or less	Non-White	Seats of the pants	0	2	1	new york
≡	Male	Over 25	White		0	3	1	new york
≡	Female	19 or less	White		0	3	1	indiana
≡	Female	Over 25	White		0	1	0	new york
≡	Female	Over 25	Non-White		0	0	0	new york
≡	Male	20 - 25	White		0	1	0	indiana

Arranging a chart by clicking on the column header

Tables can be sorted in alphabetical or reverse-alphabetical order. The first time you click on the column, it is sorted alphabetically; the second time you click on it, it is sorted reverse-alphabetically. You can tell which order the sorting has been done in based on the direction of the arrow next to the column name.

MAXQDA tables have both editable and non-editable columns. The internal system columns, for example, can never be edited. If you want to change a document name, for example, you have to do that in the Document System, not in the variable list. The same is true if you want to change the document group for a particular document. You must drag the document from one group to another in the Document Browser. In the editable fields, you can simply double-click on a cell and type in a value.

You can also copy sections of the table to the Windows Clipboard to paste them in other programs by highlighting the selected cells and hitting Ctrl+C. You can also select the entire table with the Ctrl+A keys.

If you paste the contents of a table into Microsoft Word, they will be inserted with the cells separated by a tab.

12 Visual tools

In addition to MAXMaps, the mapping tool of MAXQDA, there are seven other visual tools, six of which you can see in the toolbar "Visual tools". If the toolbar is not visible, simply activate it in the **Toolbars** drop-down menu. These tools are also all available from the **Visual tools** drop-down menu.

12.1 Code Matrix Browser

The "Code Matrix Browser" offers a visualization of the number of segments coded with each code for each document. Select the tool as described above. If you have documents or codes activated, you will be given the option of including only those activated documents and codes in the visualization. If you have too many codes or documents, the option to narrow things down is very helpful. Otherwise, select **No** to see all documents and codes in the visualization.

You can access the **Code Matrix Browser** in the **Visual Tools** drop-down menu or by clicking on the symbol in the Visual Tools toolbar.
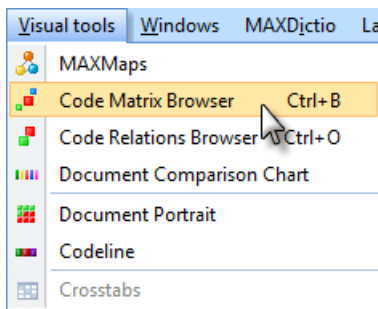
Starting the "Code Matrix Browser" via the drop down menu

Tip: If you only want to include activated documents and/or codes in the visualization, you will have that option when you first call up the visualization.

After making your selection, you will see the following screen:
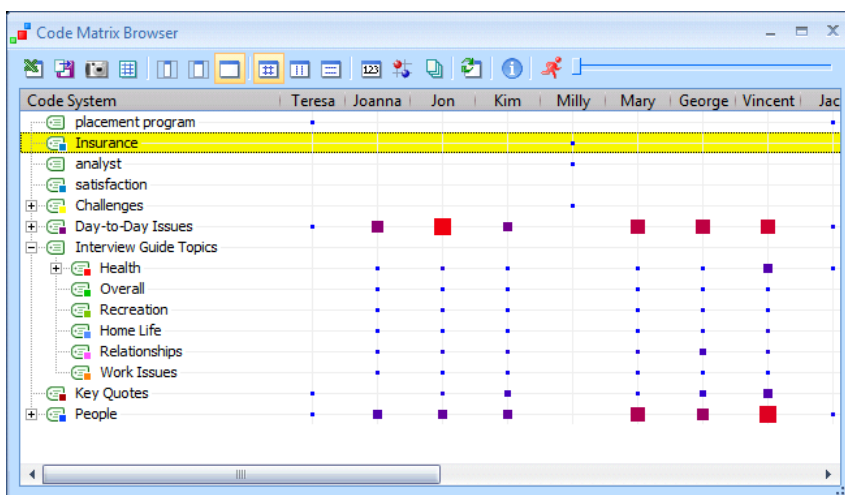
Code Matrix Browser: documents on the x-axis and codes on the y-axis

The Code System is displayed on the y-axis, and the documents from the "Document System" are on the x-axis. The number of coded segments for each code in a document are represented by the squares. The color and size indicates the number of coded segments.

By moving your mouse over the square, you can see the details:

Tooltipp inside the "Code Matrix Browser"

In the example below, you can see that the code *"Day-to-Day Issues"* was used to code 8 different segments in the document *"Kim"*.

The toolbar at the top of the "Code Matrix Browser" window offers you more options for your visualization:

shows the Code Matrix Browser in Excel.

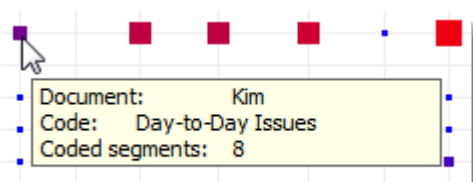allows you to export the browser as a TXT (tab delimited) or a XLS/X file.

takes a snapshot of the "Code Matrix Browser" window.

shows the coded segments represented in the Code Matrix Browser in a table.

these three different buttons set the width of the document names on the x-axis. The first option is used in our above example. The middle option displays an abbreviated version of the document name, and the third option on the right displays the entire document name (see below).

changes the squares to numbers, so you can see exactly how many coded segments were made in each of the documents:
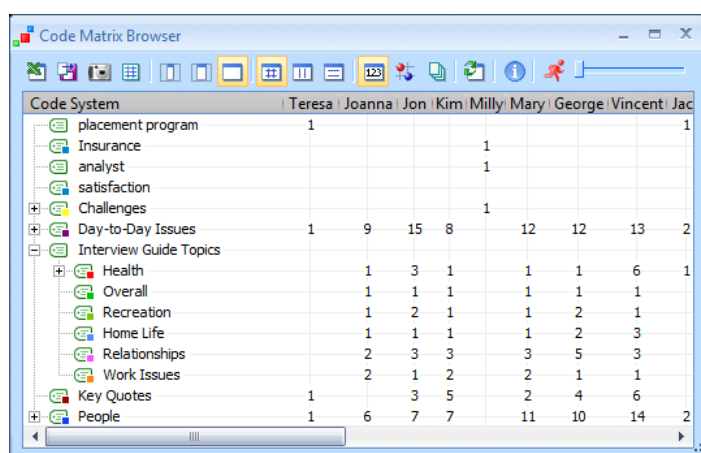
Display of the number of coded segments in the "Code Matrix Browser"

uses circles instead of squares for the visualization.

simplifies the visualization by using only one size of square or circle. You can tell whether a code was used in each text, but you can't tell how often it was used.

refreshes the visualization for those situations where you add coded segments while the "Code Matrix Browser" window was open

displays basic information about the "Code Matrix Browser".

closes the window.

this is the scroll bar. If you have many documents or are displaying the entire name of each document, it might not be possible to view the entire visualization in the window. The scroll bar allows you to scroll along the x-axis.

12.2 Code Relations Browser

The "Code Relations Browser" creates a visualization of the intersections of codes in either a single document, a group of activated documents, or all of the documents in the "Document System". This allows you to find connections or relationships between your codes.

Open the "Code Relation Browser" as described at the beginning of this chapter. If you have codes and documents activated, you will be asked if you wish to analyze only these codes and documents.

If you want to analyze all codes and documents, click **No**. You will then have the option to select which codes should be displayed on the x-axis. After clicking **OK**, the visualization will appear:
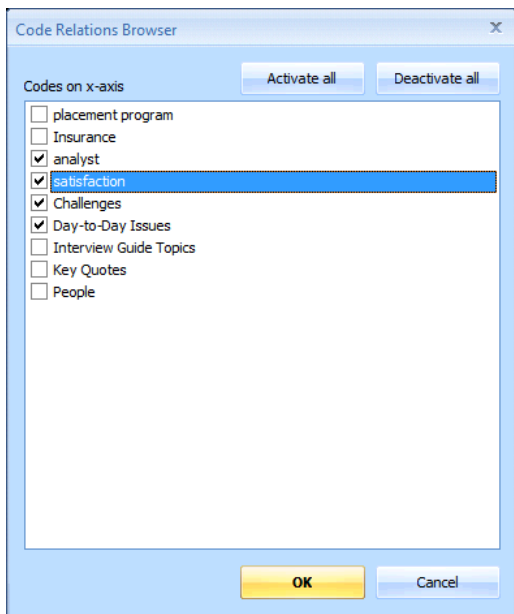
Before starting the "Code Relations Browser" you have to choose the codes on the x-axis

After making your selection, you will see the following screen:
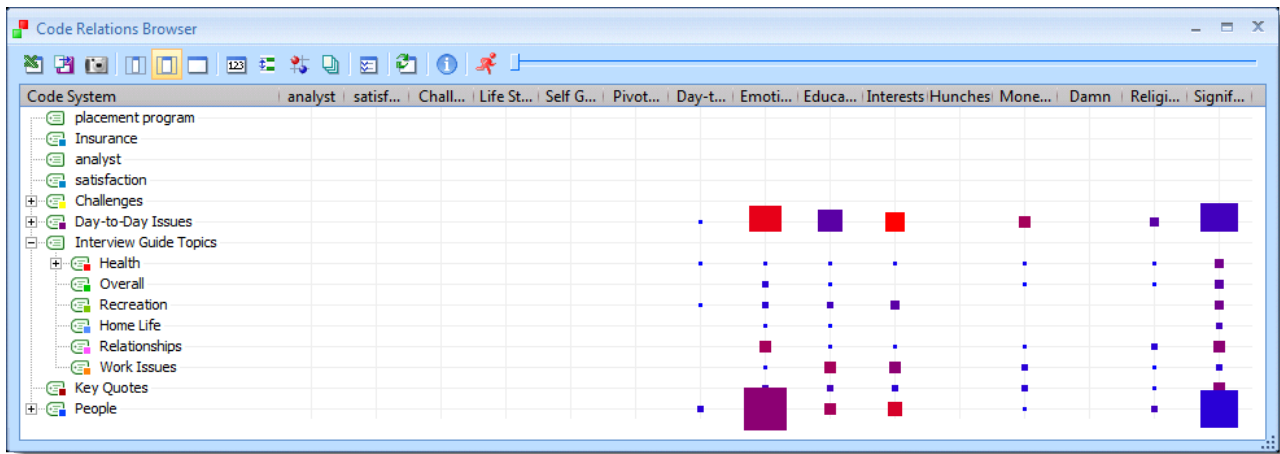
Code Relations Browser: number of intersections between codes

As in the "Code Matrix Browser", the size and color of the squares indicate the number of instances the codes on the x-axis overlap with the codes on the y-axis.

The toolbar is almost the same as for the "Code Matrix Browser" (see above) except that there are two new buttons:

The ⊞ icon changes the visualization to display situations where the coded segments are near each other instead of intersecting.

Click on the ⊟ icon to set how close the coded segments must be to each other to be counted.
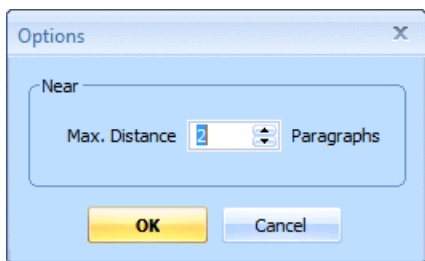
Setting the options for the "Near" function

If the maximum distance is set to two paragraphs, for example, coded segments that are within two paragraphs of each other will be counted for the visualization.

12.3 Document Portrait

The "Document Portrait" is a visual representation of all the coded segments in a selected document.

In order for this visualization to have meaning, it is necessary that you associate colors with codes in a manner meaningful for you, so that you can differentiate between codes based on their colors. If you were doing a psychological analysis, for example, you might have associated the code for aggression with the color red.

To open the Document Portrait,

❑ Right-click on a document in the Document Browser and choose **Document Portrait** from the context menu that appears, or

❑ click on the document in the Document Browser and then select **Document Portrait** from the **Visual Tools** drop-down menu or click on the ⊞ symbol in the Visual Tools toolbar.

If you have activated codes, you will be asked if you want to only visualize those codes in the "Document Portrait". Click **No** if you want all codes to be included. The visualization window will then appear.
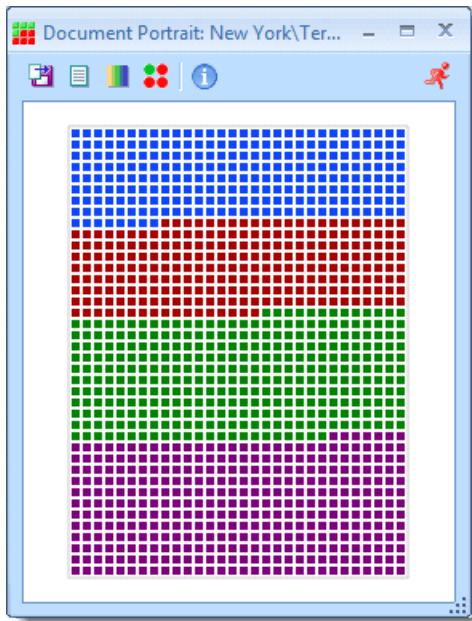
The "Document Portrait" window

The colored squares represent coded segments in the document. You can now see which codes are used in the document and get an idea of the proportions between the various codes. The white spaces represent text segments that are uncoded. If you click on a colored section of the visualization, the corresponding text segment will be highlighted and displayed in the "Document Browser".

The toolbar for this visualization offers some functions that are not present in the other visualization toolbars:

Export – saves the visualization as a graphics file.

Visualize whole document or coded text – allows you to switch between displaying the uncoded segments as white and leaving them out completely. This can be especially helpful if there are large portions of uncoded text.

Mixed colors for overlapping codes (yes/no) – decides how segments should be visualized that are coded with more than one code. If the above option is off, each of the colors of the codes used to code the same segment will be listed sequentially, one after the other, similar to how it works in the Overview of Coded Segments. If the option is turned on, the colors of each assigned code are mixed together.

Display nodes as circles (on/off) – lets you switch the symbols in the visualization back and forth between squares and circles.

12.4 Codeline

Similar to the Document Portrait, the Codeline is a visualization of a single document. It generates a matrix made up of the text paragraphs and the codes used in those paragraphs. The colors in this case only serve an aesthetic purpose, so it is not necessary that you have made meaningful color associations before using this tool.

The Codeline is called up …

❑ by selecting **Codeline** from the **Visual Tools** drop-down menu,

❑ by right-clicking on a document and choosing **Codeline** from the context menu that appears, or

❑   by clicking on the appropriate symbol [icon] in the Visual Tools toolbar.

You will then see a dialogue box with the option to only include activated codes (if you have any codes activated) and to aggregate subcodes on the first level. The second option is helpful if you have many subcodes, but want the level-1 code to represent all its subcodes in the visualization.
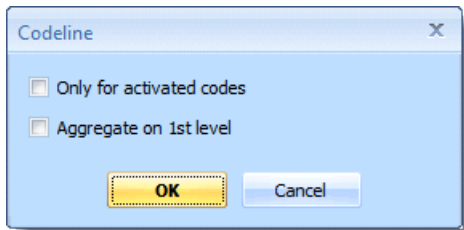
Options for creating a "Codeline"

After clicking **OK**, the "Codeline" visualization window will appear:
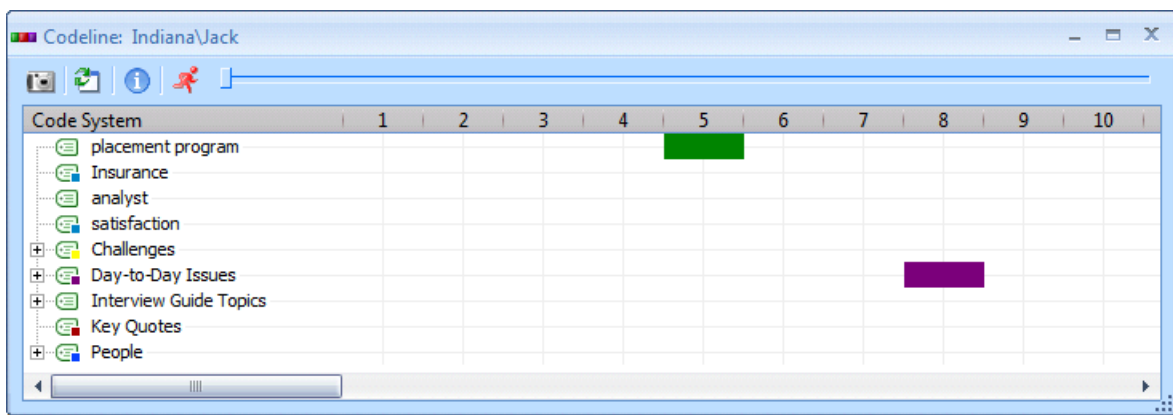
Codeline: codes in chronological order

In the example above, you can see the code names on the y-axis and the paragraph numbers on the x-axis. We can tell that the code "placement program" was used in paragraph 5, and "day-to-day issues" was used in paragraph 8.

To scroll through the paragraphs, you can use the scrollbar at the top of the window:
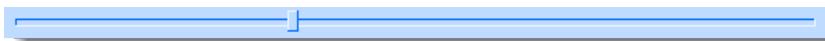
When you use this scroll bar, the list of codes on the y-axis remains visible, so you don't lose sight of which rows represent which codes.

Icon functions:

[icon] This button takes a picture of the visualization as it is currently seen in the window and saves it as a BMP file.

[icon] This button refreshes the graphic, which is helpful if you have changed coded segments since opening it. This saves you the time of closing and reopening the visualization.

12.5 Document Comparison Chart

This visualization allows you to compare the codes used in each document. You can call up the Document Comparison Chart:

❑   by selecting **Document Comparison Chart** from the **Visual Tools** drop-down menu, or

❑   by clicking on the [icon] icon in the Visual Tools toolbar.

If you have codes or documents activated, you will be asked if you only want to use these codes and documents. To include all documents and codes, click **No**. The chart will now appear:
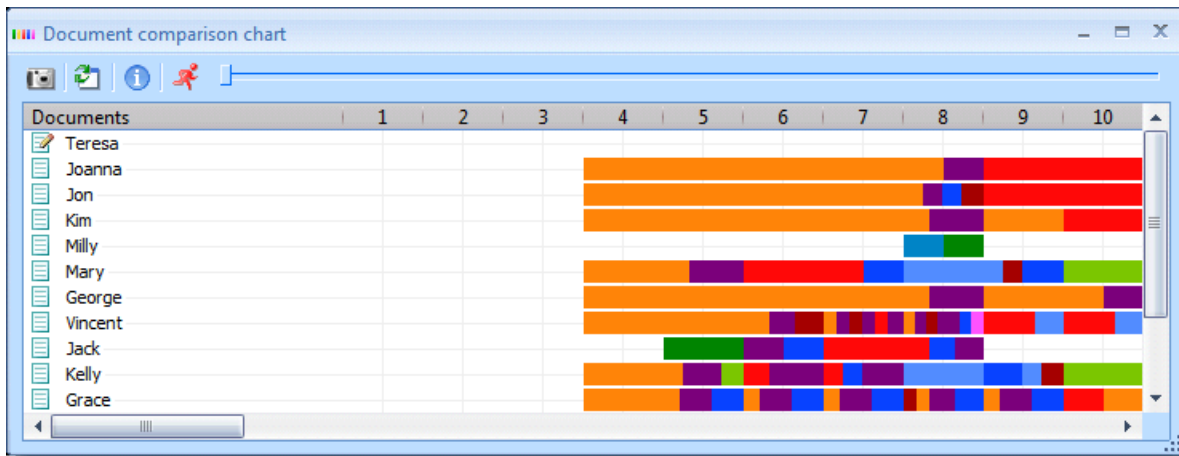
Document Comparison Chart: comparing codings of texts segments

The documents from your "Document System" are displayed on the y-axis, and the paragraph numbers are on the x-axis. The colors correspond to the assigned color in the "Code System". In the above example, orange represents the code "Work Issues", violet represents "Day-to-Day Issues", etc. You can see then that in the document "Joanna", the paragraphs four to eight each included at least one instance of the code "Work Issues", with at least one instance of the code "Day-to-Day Issues" in the eighth paragraph.

Double-clicking on a section of the visualization opens the associated document in the Document Browser and highlights the appropriate paragraph. The scrollbar at the top of the window is helpful for moving through the paragraphs without losing the y-axis labels. You also have the screenshot [icon] and refresh [icon] icons in the toolbar.

Tip: This visualization is especially helpful if you are comparing structured interviews.

13 Mixed Methods Functions

MAXQDA offers a number of mixed methods functions, allowing for the combination of qualitative and quantitative data. They can be found in the **Mixed Methods** drop-down menu:

Activation by variable – lets you activate documents or sections of documents to be included in retrieval based on variable values. You could, for example, use this function to find out what all men between the ages of 40 and 50 said about migration issues.

Quote Matrix – creates a Word file showing what different groups said about a theme based on certain variable values that you specify. Each group's coded segments for the specified codes are in a different column. You could, for example, choose to see how those with various levels of education differ on their approach to combating homelessness.

Crosstabs – works parallel to the Code Matrix Browser, except that this function doesn't work on the document level. Instead, you can create groups based on your variable values and compare how often each of these groups talks about each theme. You could, for example, compare how often men talk about relationships in your life satisfaction interviews in comparison to women.

Typology tables – shows an overview of variable values for qualitative typologies that you have created (e.g. for people with various views on combating their own homelessness). You could see, for example, what the mean age, gender breakdown, and average time already homeless is for the "apathetic pessimists" in comparison to the "proactive optimists."

13.1 Activation by Variable

The activation of texts cannot only be done manually but also automatically. With the **Activation by variable** function, the values of variables play the control function for text activation. If you defined the variables "Gender", "Age", and "Education" it is possible to start a text evaluation only for women of a specific age group, who received a college degree. The selection criterions for the text analysis have to be entered in a standardized way. The syntax that MAXQDA demands for the entry of such logical conditions is similar to those of statistical programs, such as SPSS.
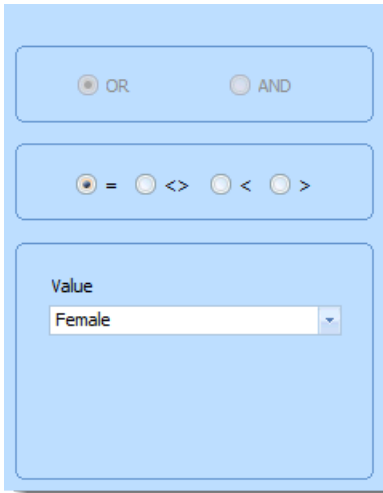
The **Activation by variable** function always refers to the whole, currently opened project. You can access the function by choosing **Activation by variable** from the **Mixed Methods** drop-down menu or by right-clicking on the **Documents** icon in the Document System and choosing **Activation by variable** from the context menu that appears.

All logical formulas must have the following components:

<div align="center">

variable name / operator / value

</div>
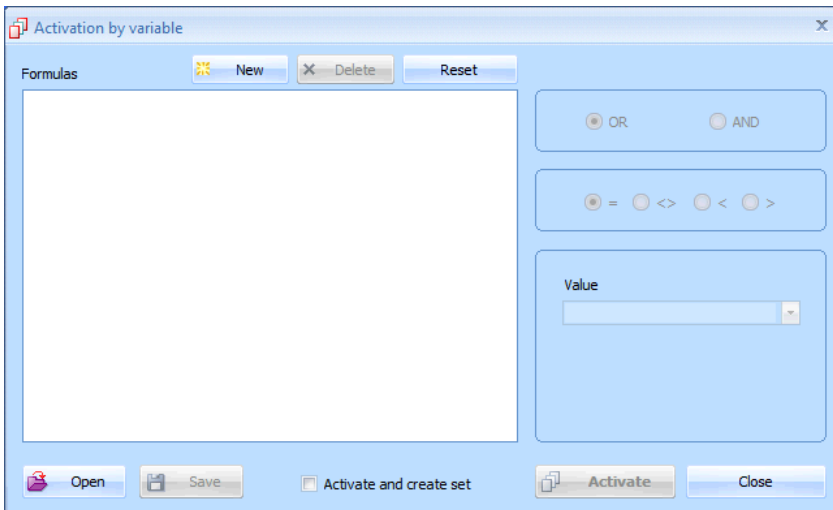
If you have created a variable called "gender" and used the characters "m" for male and "f" for female, we would use the following formula in order to activate those documents or document sections that have been assigned to women:

<div align="center">

gender = w

</div>

Selecting the value of a variable

Entering logical formulas for your activations can be done in the window shown below. Additional details can be found in the manual.

The options window for the "Activation by variable" function

13.2 Crosstabs

The Crosstabs function has some similarities to the Code Matrix Browser, except that groups of documents are analyzed instead of single documents. Social groups, such as men and women, or people with different personal background, etc. can be grouped based on variable values. All of the variables that are in your project can be used to set up a group.

The first step is to activate codes in the Code System. If no codes are activated, the **Crosstabs** option in the **Mixed Methods** drop-down menu will be grayed out.

After activating codes and clicking on **Crosstabs**, a window will appear where you can enter formulas for the various columns.

First, click on the **New** button to create the first formula. A screen will appear with all of the variables in the project, which you can use to create the formulas.
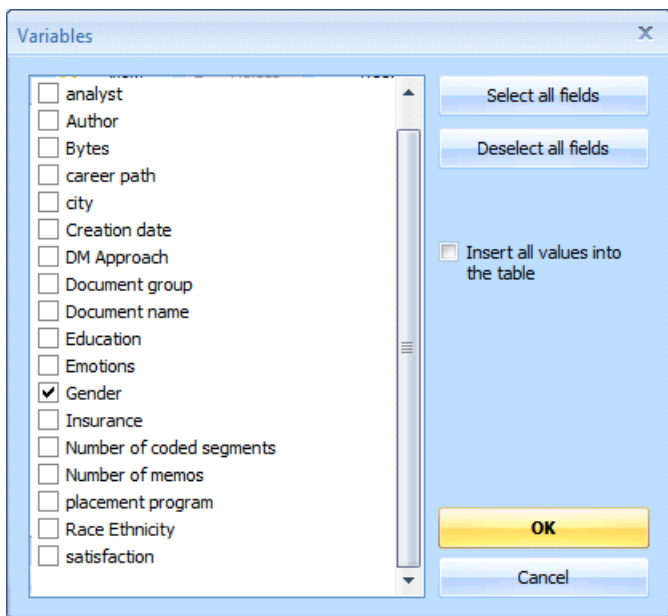
Selection of variables
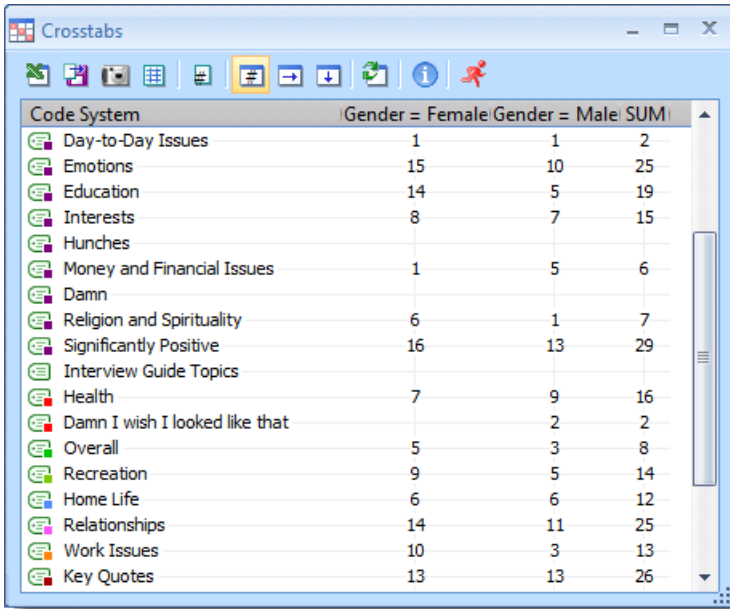
You can see in the screenshot above that the variable "Gender" has been selected. You would then click on **OK** to go back to the formulas screen.

You can then set the formula for which gender is to be represented in that column. On the right side of the variable selection window, you will see the option to **Insert all values into the table**. In the case of gender, this would mean that both men and women would be put in a column.
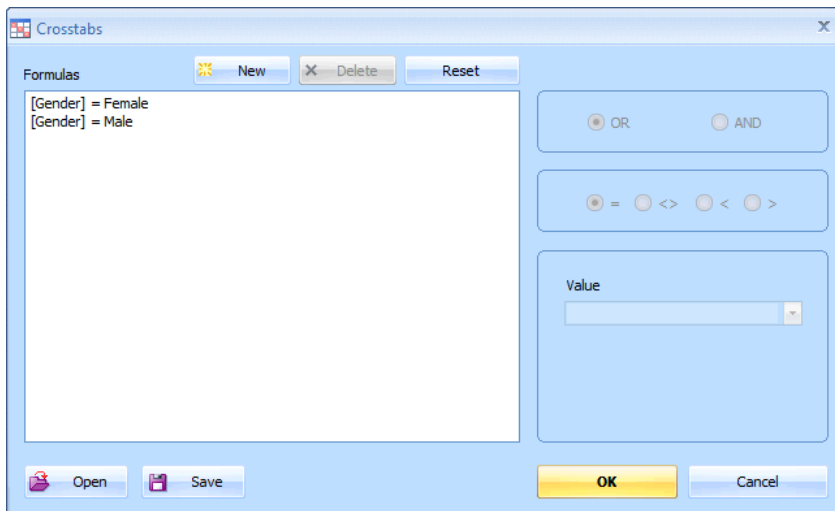
Different values of a variable can be added

Simply click on **OK** to create the Crosstabs.

The "Crosstabs" window

The codes are listed on the y-axis, and the specified variable values are listed on the x-axis at the top of each column.

Each cell shows how often each code was found in documents where Gender=Female (column 1) and where Gender=Male (column 2).

The following options are found in the toolbar at the top of the window:

Shows the matrix of values in Excel.

Exports the matrix of values in either XLS/X or TXT (tab delimited) format.

Saves a snapshot of the window as it is currently seen in BMP format for later use in a presentation.

Opens a Quote Matrix for the selected codes and groups in the Crosstabs window.

Changes the calculations to be based on the number of documents that contain the code rather than the total number of segments coded with that code.

The next three icons set how the values are shown in the matrix cells:

Number of segments – meaning the code frequencies for each group are shown as a value.

Row percentage – meaning the value for each cell is shown as a percentage of the frequency of the code in all groups (horizontal percentage).

Column percentage – meaning the value for each cell is shown as a percentage of the frequency of all codings in that group (vertical percentage).
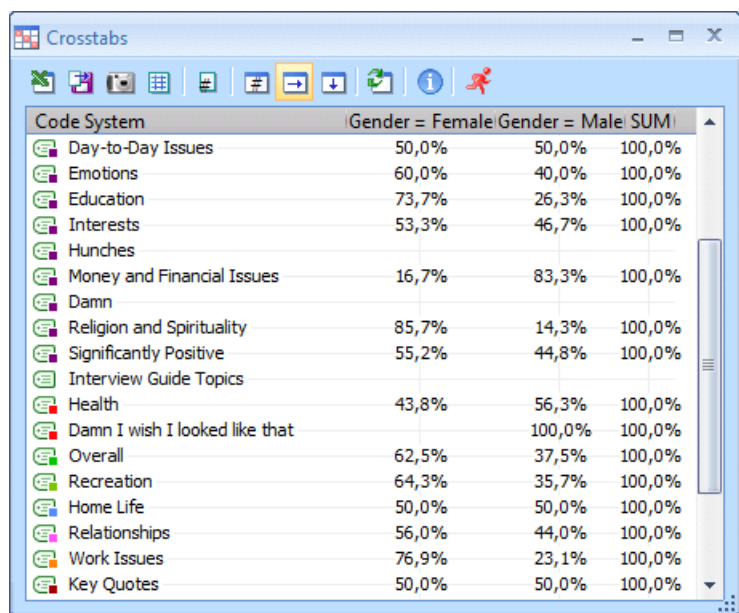
Refresh – recalculates the values in the table.

Showing information about the function.
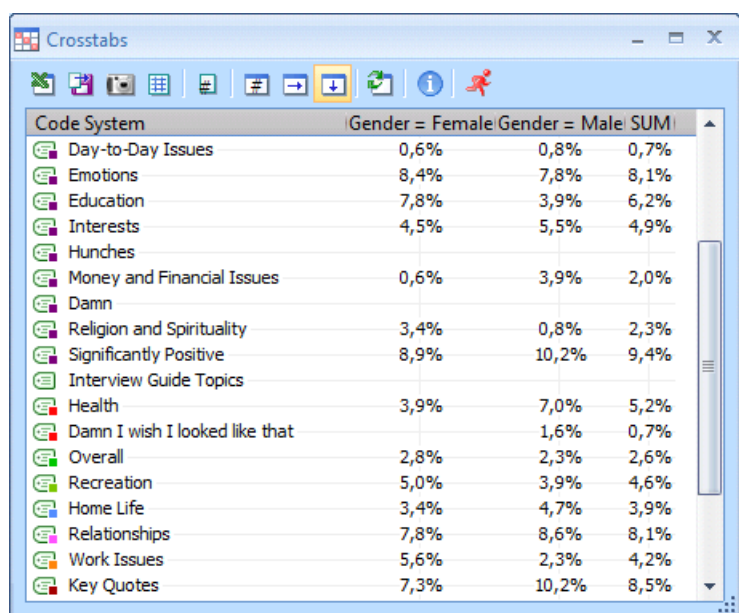
Closes the Crosstabs window.

The "Row percentage" view

Example: 60% of all coded segments about "Emotions" were from documents representing female interviewees.

The "Column percentage" view

Example: 8.4% of all coded segments in the documents representing male interviewees were coded with the code "Emotions."

13.3 The Quote Matrix

The Quote Matrix is based on the same idea as the Crosstabs function, i.e. to create a joint display of themes and quantitative variables. The Quote Matrix does this on a more detailed, non-aggregated level. Here the coded segments themselves are listed in the cells of the matrix, not only the number of coded segments for that particular cell.

In the example below, we can see a comparison about what married people said about certain themes compared to what single people said about them.

In theory, it would be possible for you to create a Quote Matrix on your own by doing retrievals in MAXQDA for each group and copying them from the Retrieved Segments window into a table in Word, but this would take a lot of time, and the sources of each segment wouldn't be listed.

The results of your Quote Matrix are opened automatically in whatever program is set to open RTF files (e.g. Microsoft Word). The coded segments retain the formatting that they had in MAXQDA. If some of your documents are formatted differently than others, this could lead to a chaotic-looking document. It is recommended in these cases, that you highlight the whole table and assign the same font and size to it.

In order to ensure that the Quote Matrix is readable, it is limited to a maximum of four columns. If you absolutely have to have more columns than that, you can create two different ones and bring them together in your word processor. The Quote Matrix assumes that you are working with categorical variables. If you want to display metric variables, you need to use the Typology Table.

13.4 Typology Table

This function offers yet another way to combine quantitative data and your codes. It is called a Typology Table, because it is able to calculate various variables and their percentages (means, standard deviations, etc.) for qualitative typologies.

The table is set up similarly to the following example from Creswell and Plano's book "Designing and Conducting Mixed Methods Research" (2010: 292):

Characteristics	Physician Rated Patient Depressed n = 27	Physician Rated Patient Not Depressed n = 21	P Value
Sociodemographic characteristics			
Age, mean, No. (SD)	73.0 (5.3)	77.1 (5.3)	.012
Women, No. (%)*	21 (79)	15 (71)	.623
African American, No. (%)*	10 (39)	12 (57)	.173
Education less than high school, No. (%)*	8 (30)	10 (48)	.210
Psychological status			
CES-D score, mean (SD)	18.3 (13.5)	15.6 (10.0)	.450
BAI score, mean (SD)	10.0 (9.2)	11.8 (8.5)	.498
BHS score, mean (SD)	5.5 (4.1)	4.8 (3.7)	.607

Example of a Typology Table

Here, the rows contain different variables divided into two sections: "Sociodemographic characteristics" and "Psychological status". The table starts with age, which is obviously a metric variable. The next row lists the number and the percentage of women, a category in the categorical variable "sex". The third row gives a number and also the percentage for the African Americans, also a category of a categorical variable. The next row also gives information about a categorical variable "education less than high school". The next three rows after the heading "Psychological status" all deal with metric variables. Let's go into more detail:

The first column of the table "characteristics" contains the name of the variable. The second column "Physician rated patient depressed n=27" gives aggregated information for 27 patients: on average, they are 73 years old with a standard deviation of 5.3 years. Twenty-one of the 27 persons are female, which is equal to 79%.

The third column "Physician rated patient not depressed n=21" gives aggregated information for another group of patients. With an average age of 77.1, they are older than the first group. The standard deviation (5.3 years) is exactly the same as the other group. Fifteen of them are female (71%), slightly less than in the first group. The fourth column gives a probability for a significant difference based on the comparison of group data.

14 Teamwork

14.1 Styles of teamwork

MAXQDA offers three different options for working in a team:

❑ All team members work on the same project file alternately.

❑ All team members work with the same text material and exchange their coded segments, memos, and variables.

❑ All team members work with different texts and want to merge their partial projects to one single project.

14.2 Alternately working on the same project

The first option is very easy to do. If your team works on the same computer on different days, it is possible for every team member to simply sign in with their own user name in MAXQDA and open the aforementioned project file (see Chapter 1 First steps in MAXQDA). All program objects (documents, codes, memos, and coded segments) receive the same "stamp" (username), which gives information about who created which code/coded segment/memo and when.

You can also send your project file via E-mail to another team member. Just make sure that you do not work on that file on your computer in the meantime, and wait until the other team member sends his worked-on file back. Simply click **Open other projects** in the startup window of MAXQDA and search for the project file that has been sent to you.

14.3 Exchanging and comparing coded segments, memos, and variables

Coded segments, memos, and variables, which have been created by different team members, can be merged with the help of the **Export teamwork** or **Import teamwork** functions. These functions can also be used to compare coded segments. It is necessary, however, that the body of data remains identical; the team members exchange memos, coded segments, and variables, but the texts remain unedited. This is how it works:

Teamwork Export

You can export all coded segments, memos, and variables of a text, an entire document group, or all documents by right-clicking on the desired document group or document in the "Document System" and choosing **Export team-work** from the context menu. The file can then be saved to a chosen spot. Teamwork exchange files have the extension MEX. This export file can now be transferred to others in the team (by E-mail, for example).
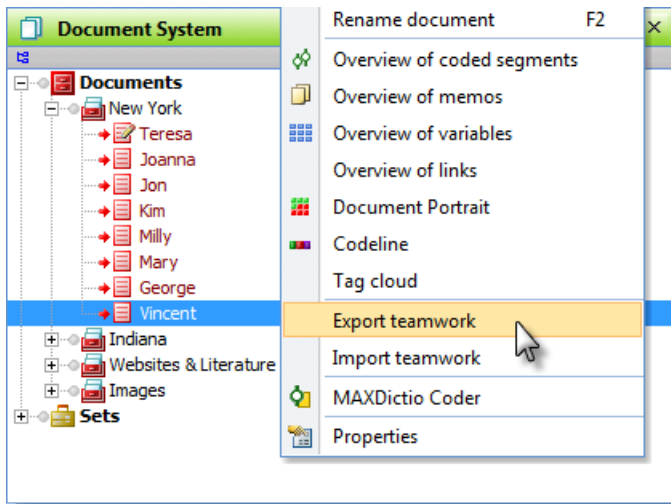
Codings, memos, external links and variables wilbe exported

Teamwork Import

It is recommended that you always create a project backup before importing teamwork, since this action cannot be undone!

To insert a colleague's team work, right-click on the document or document group that has been worked on and choose **Import teamwork** from the context menu.

You have the option of selecting only particular elements out of the teamwork export file. You can choose which exported text elements should be integrated into which target texts (this may be important in case you have identically named texts in your project file). You can also select the elements to be imported: variables, coded segments, and/or memos. The default setting imports all elements. In order to be in control of the import procedures, it is recommended that you create a protocol file. This keeps track of which document has been imported with which coded segments, memos, and variables. Coded segments will be listed with codes and subcodes, as well as paragraphs.
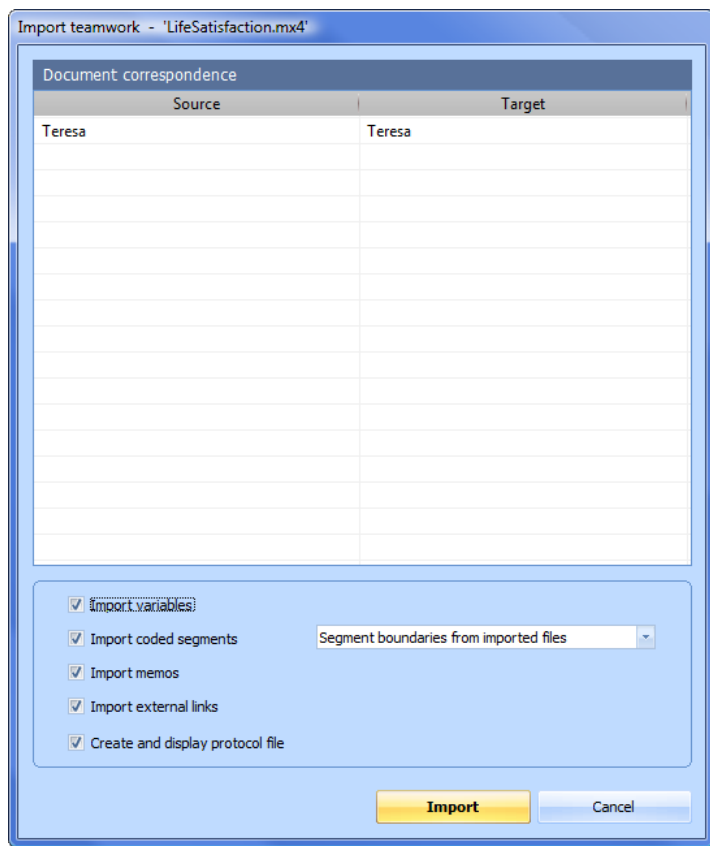
The "Import teamwork" window

14.4Merging of projects

Merge your project "test project" with a second project by choosing **Project > Merge projects** from the main menu bar. A dialog box pops up asking which project should be imported. This procedure adds all not yet available memos, coded segments, codes, texts, and variables to your project.

Identical texts existing in both projects will be doubled during the merge procedure. If you want to avoid this, use the style of teamwork mentioned beforehand or delete doubled documents by hand!

15 Audio/Visual files

MAXQDA was developed for use to analyze qualitative data with a focus specifically on text analysis. The fact that it is now possible to analyze audio and video files in MAXQDA 10 does not mean that it is trying to replace or compete with already-existent programs that specialize in video analysis (e.g. Studiocode and Transana). MAXQDA's new functionality for working with audio and video files is actually a simple extension of the text analysis options rather than an attempt to offer a stand-alone video analysis tool. This was done in response to the common wish to have a connection between text (usually interview transcripts) and the original audio or video files. For this reason, MAXQDA 10 makes it possible to make this connection between texts in RTF or DOC/X format and audio or video files (MP3, WAV, etc.).

You can open any media file for which your computer has a codec. After selecting the file, the Document Browser window will automatically be set to edit mode, so you can transcribe the text to the clip.

If you are having problems with playback of a certain file type, check out the Frequently Asked Questions on the MAXQDA website.

There are three different ways to work with text and audio/video files:

Variation A – First you do the text transcription with whatever transcription software you want to use, import the transcription as a document in MAXQDA, and then link the document to the original audio/video file. At this point, there aren't any connections between specific segments of the transcript and parts of the external file. These connections have to be created with time stamps within MAXQDA.

Variation B – The first step in this variation is to transcribe the file with the professional software f4 (www.audiotranscription.us), in which you can create time stamps as you transcribe. You can then export the transcript in RTF format and import it into MAXQDA, and the time stamps are imported along with the text. You will then already have the connection between your text and the audio or video file.

Variation C – In this variation, you transcribe the file within MAXQDA.

15.1 Linking a Document to a Multimedia File

To link a document in the Document Browser to a multimedia file, right-click on the document and click on **Properties**. The window that appears will include a field for a multimedia file. Click on the three dots to continue.
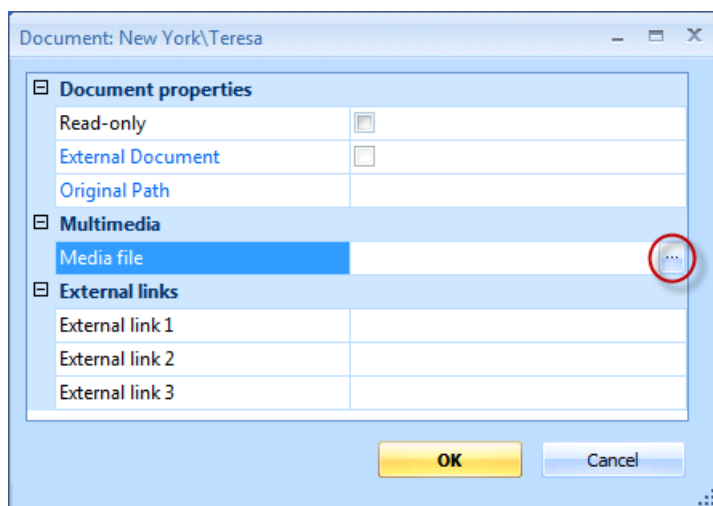
The media file field in the Properties window

A dialog field will then appear, allowing you to choose the audio or video file that you want to link to. Once the connection has been created, the document will be visualized in the Document Browser with a music note next to its name: .

Tip: Audio and visual files are not actually imported into the .MX4 project file. They are simply linked to, so that the project file size does not become unmanagable. It is therefore recommended that you keep all external (multimedia) files in a single folder, and define that folder in the MAXQDA options menu **Project > Options**.

15.2The Media Player Toolbar

Before you can do the transcription as describe above, it is necessary to make sure the Media Player toolbar is being displayed. You can access this toolbar from the **Toolbars** drop-down menu.
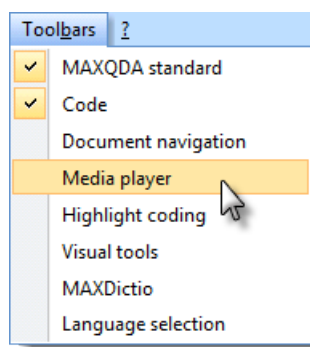
Activating the Media Player toolbar

You can then click on the red flag symbol to activate the connection to the multimedia file:
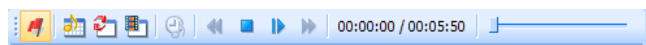
Media Player toolbar

You will now see a new column in the Document Browser where the time stamps will be visualized. If you haven't created any yet, there will only be one at the very beginning of the document.
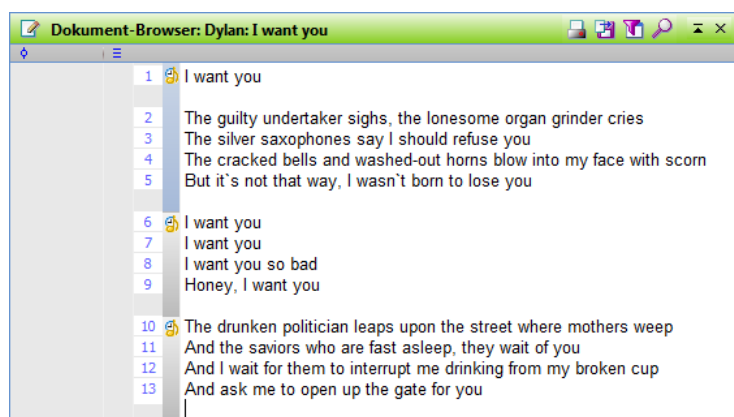
Time stamps are shown in a column between the text and the paragraph numbers

The symbols in the toolbar give you access to the following functions:

 (De)activates the connection to the A/V file.

Opens/closes the time stamp table.

Turns on/off sync mode, which causes the text to follow the media file.

Opens/closes the video window to view video files.

Inserts a new time stamp.

Rewinds the media file to the last time stamp.

Stops playback.

Pauses playback.

Fast forwards the media file to the next time stamp.

The two numbers next to the icons tells you the current point and the total length of the media file.

15.3 Transcribing Multimedia Files in MAXQDA

MAXQDA offers several functions for simple transcription of multimedia files. To start a transcription, right-click on the "Documents" icon in the Document System and choose **Transcribe audio/video**.
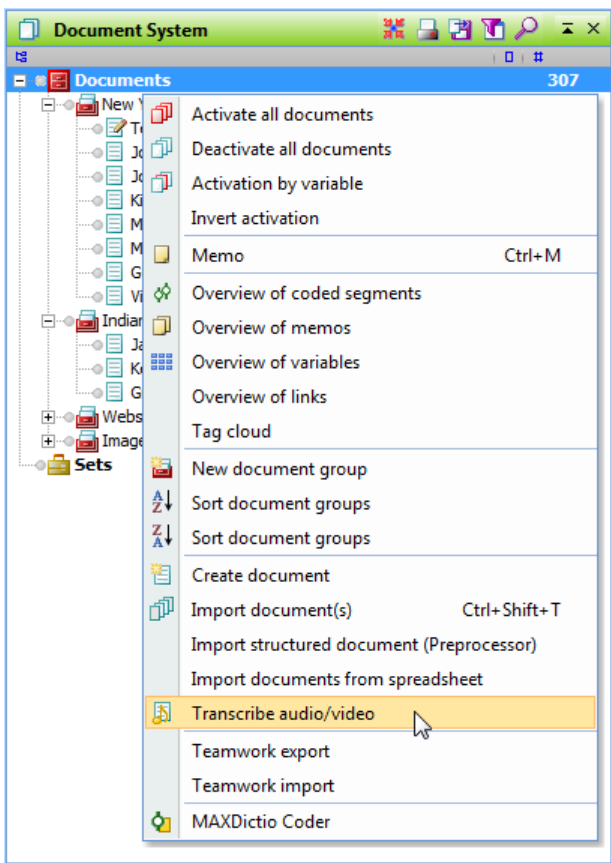
Acces the context menu by right-clicking on the "Documents" icon in the Document Browser

A window will appear, allowing you to select the audio or video file that you want to transcribe. At the same time, an empty document will be opened in the Document Browser with the Edit Mode turned on, so you can immediately begin to transcribe. If you haven't done so yet, you will need to activate the Media Player toolbar, which can be found in the "Toolbars" drop-down menu. To activate the media file, click on the red flag symbol.

The red flag symbol activates the connection to the media file

You can control the playback of the file with the F4 key (start/stop) and create time stamps with the F3 key (insert time stamp). You only need to follow the following steps:

(1) **Playback**: Press the F4 key to play the file. It will continue until you click on the F4 key again to pause it.

(2) **Transcribe:** Now you can type into the document what you hear being said in the media file. As soon as you start to transcribe, you'll notice that a time stamp was inserted at the very beginning of the document (representing the starting point 0:00).

(3) **Insert time stamps:** Only the first time stamp is inserted automatically. All others need to be created by you. When you want to insert one, just hit the F3 key. It is up to you how often you insert new time stamps.

You can create more than one time stamp in the same line, but only one can be visualized in the time stamp column.

Once you are finished with the transcription, it can be coded in the same way as any other text-based document.

15.4 Importing Transcripts with Time Stamps

This variation will be explained with a song as an example. Let's say we wanted to have a synchronized connection between the text and the audio for the song "I Want You" by Bob Dylan. To save us the time of doing the transcription, we can get the text from Dylan's website. We can then either copy it and paste it into a document in MAXQDA, or we could paste the text into an RTF or DOC/X file and import that file into MAXQDA. For this example, we'll name the document "Dylan: I want you." Once the text is in MAXQDA, we need to create the connection to the audio file.

Right-click on the document "Dylan: I want you," and select **Properties** from the context menu that appears.

Click in the field next to the "Media file" label in the "Multimedia" section. You will see a button with **...** on it just to the right of the field. Clicking on that button will open up a window, so you can find the audio or video file (in this case, the Bob Dylan song). Click **Open**.

Close the **Properties** window.

The MAXQDA document with the Dylan text is now linked to the audio file, but the audio file wasn't actually imported as part of the MAXQDA project. You will now see that the symbol next to the "Dylan: I want you" document has changed. This is the symbol for a document linked to a media file:
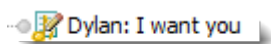
Double-clicking on this document opens it in the Document Browser (see below). A new column has been inserted between the text and the paragraph numbers, which will show your time stamps. The document only has one time stamp at this point, representing the very beginning of the song, since we haven't added any yet. To play the song with the internal media player, you need to activate the **Media Player** toolbar from the **Toolbars** drop-down menu. You can then click on the **red flag** symbol in this toolbar to activate the media file.
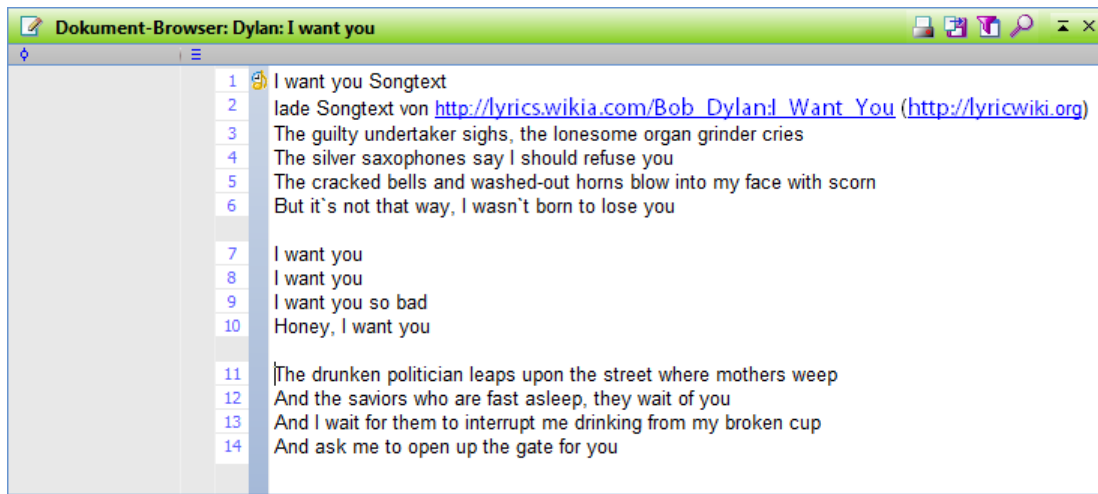
Next, we would want to put the cursor at the beginning of the actual song text in paragraph 3, right before "The guilty undertaker …" and start playback of the song. We can do this by clicking on the **Play** button or using the F4 key on the keyboard. We would then let the song go until right before the singing begins and insert a time stamp by clicking on the "Insert time stamp" button or by pressing the F3 key. We want to do this same thing for the beginning of each verse. We would then see a time stamp symbol next to the first line of each verse.
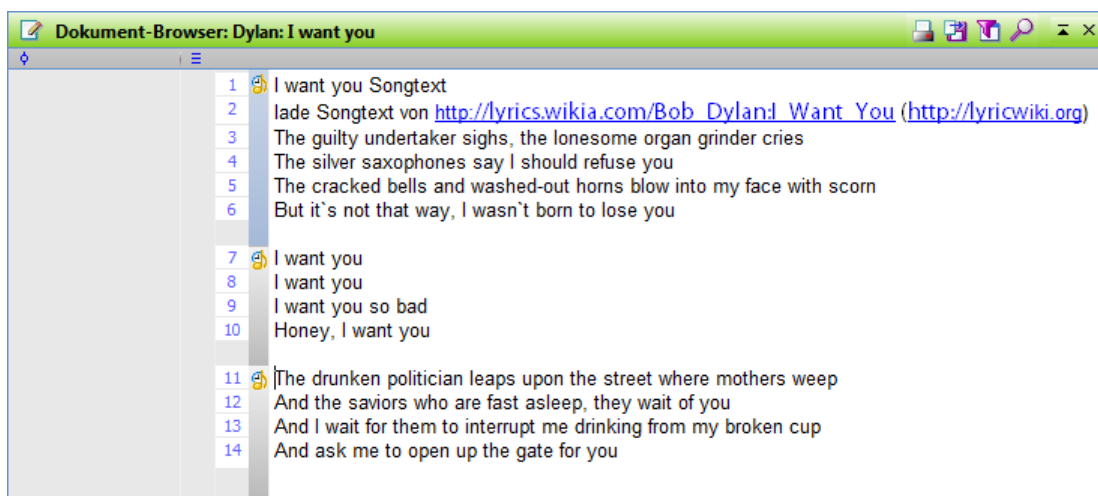
We can now use the synchronized text and audio together. By clicking on any of the time stamps, we will hear the song played from that point. If you do this with an interview transcript, you can in a similar way get back to various sections that you may want to hear again for tone or emphasis.

If you turn on the **Sync mode** in the toolbar and click on the **time stamp** next to the first verse, the text follows the song, meaning the section of text being sung will be highlighted, similar to the way karaoke works. You can then follow along with the song text as you hear it.

15.5 Importing F4 Transcripts with Time Stamps

The second variation saves you the trouble of creating time stamps in MAXQDA, because they were already created in F4 and can simply be transferred over with the text to MAXQDA. Choose **Import document** from the **Documents** drop-down menu and select the RTF file that was generated by F4. MAXQDA then searches automatically for a media file with the same name in that folder. It searches for files with typical media file formats like MP3, WAV, MPEG, etc. If the transcript was called "Interview_06.rtf," MAXQDA will look for "Interview_06.mp3," "Inter-

view_06.wav," etc. If such a file is found, you just need to confirm that it is the appropriate file. If the file has a different name, you will need to find in the dialog window.

Tip: MAXQDA automatically checks whether the imported text document contains time stamps. If you want to import the media file with time stamps, it can only be done by importing the text file that has the time stamps imbedded in it. It is not possible to synchronize transcripts that have already been imported with external media files.

After you have imported the text and audio or video file, you will see the time stamps in a column just to the left of the paragraph numbers in the Document Browser. The media file won't be opened by MAXQDA, though, until you open the **Media Player** toolbar and activate the media file by clicking on the **red flag** icon.

15.6 The List of Time Stamps

You can see a list of all the timestamps and their details by clicking on the 🔡 icon.
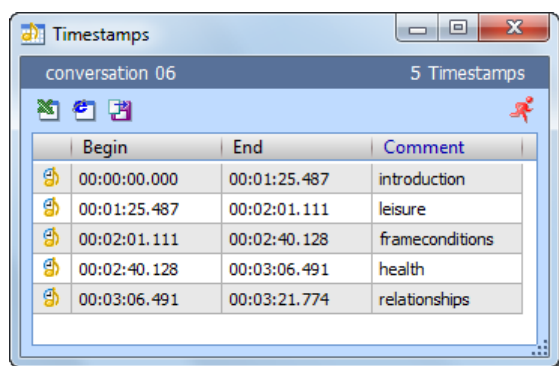
The list of time stamps

The time stamps list has as many rows as there are time stamps in the document, and every row has three columns. The first two columns contain the start and end points of that segment. In the third column, you have the option of writing in a short comment about that particular segment. These columns are set up just like columns in any other MAXQDA table. Clicking on any of the column headers sorts the table by that particular column alphabetically (another click changes it to reverse alphabetical order). You also have the option to search in a column by right-clicking on the column header and selecting **Search**. If you don't know if your search term is the first word in the column, you can insert a "*" before your term. (A search for "*any" would find the word "company," for example.)

If you are importing a document with time stamps, you still have the option to add new ones once it has been imported into MAXQDA. The option to write your comments in the list of time stamps also gives you a new way to find sections of your media file. Double-clicking on a row takes you to that section of the text in the Document Browser and starts playback of the media file from that point.

15.7 Working with video

Video files are imported, heard, transcribed, and coded in the same way as audio files. The only difference is that the file can be seen as well as heard by clicking on the **Video window icon** 🎞.

Clicking on timestamps takes you automatically to the appropriate point in the video.

16 MAXMaps

MAXMaps offers a new perspective on your data and the connections within it. The primary task of MAXMaps is to provide a graphical representation of the different elements within a MAXQDA project. These "objects" can be inserted into the MAXMaps drawing pads, and connections can be made in order to visualize a complex graph of relationships. MAXMaps also allows you to design graphical models or networks that are completely independent of MAXQDA's data. That's why MAXMaps is a universal graphics software tool that is not only restricted to applications in qualitative research within the social sciences. All elements of MAXQDA, e.g. codes, memos, coded segments, and documents, may be imported into a map. In addition, MAXMaps also allows you to insert so-called free elements (text, pictures, and graphics) that can be chosen by the user.

MAXMaps can be used for different purposes. Maps can help to explore and organize data. They allow you to develop your ideas and to communicate them to your research team. Maps can also be a valuable tool for scientific explanation and can help to visualize complex relationships and theories. For instance, you can create tables and worksheets to gain a better perspective of the different elements within a project. MAXMaps can also be used for presentations and lectures. The different layers of a map may be displayed in arbitrary order; thus, a variety of different options for designing presentations are available.

With MAXMaps, it is possible to display:

❑ The relationships between different codes and categories.

❑ An overview of different facts and phenomena within the research field.

❑ The different memos belonging to a document or a group of documents.

❑ The context or important facts of the research, e.g. photographs of locations or persons.

❑ A graphical overview of the research methods used.

❑ A research timeline.

❑ The research design and characteristics of the sample.

MAXMaps can also have different functions for researchers. You can, for instance, use MAXMaps to organize and manage your "Code System". Or you can link codes, text, and memos in a hypothetical order to then further test the relationships in a second step.

MAXMaps is not merely a graphics tool that works with icons and symbols, though. All the elements used in a map are interactive, meaning they are connected to the MAXQDA project. Simply switch to "sync mode" to establish a connection to the MAXQDA database. This makes an icon that symbolizes a text document not only a passive icon, but allows you to double-click on the icon to open the document in MAXQDA's "Document Browser." Then you can read and browse through the document. The same is true for memos. As soon as you click on the memo symbol, the memo appears and can be read or even modified. In the case of symbols for coded segments, one click displays the segment, which allows you to examine and compare different segments of your map.

MAXMaps allows you to define connections and relationships as you choose. These connections may be hypothetical -- they do not even have to be consistent in logic while you are designing the maps because you are always free to make changes. As a result, you can "play" with different models and relationships. For example, a code "attitude" may appear as a condition of another code "behavior" in Map A and as the result of the code "behavior" in Map B. Constructing, testing, and modifying different models is a an important aspect of analysis, thus making it counterproductive to be consistent with links and relationships right from the beginning.

MAXMaps not only allows you to define links and relationships, it also offers a way to make links and relationships that have already been implemented in your project visible. Examples are memos that have been assigned to a document: MAXMaps can import all the connected memos automatically. These memos are displayed as symbols and you can open and check them. The same is true for codes: If you have imported a code in your map, all the memos

linked to this particular code can also be imported automatically. Moreover, you can search and insert all of the codes overlapping with a code on your map and automatically connect them to the code.

These features do not establish new links or new relationships, but they allow for completely new perspectives to your data. Connections that have likely been hidden in listings or tables can now come to the foreground. New views and relationships become visually apparent and much easier to understand. The connections between different elements of the diagram are not restricted to hierarchical relationships as with the "Code System" in MAXQDA. In MAXMaps, relationships can be represented in a more complex way, for instance as networks or any other type of model.

This visual method of data display is supported by the variety and flexibility that characterizes MAXMaps. All elements used in a map may be designed individually. Codes, memos, and texts are not always displayed with the same symbols and colors. You can select different symbols, colors, fonts, and sizes, or even import your own symbols unique to each element of your map. All labels, images, and symbols can be managed individually. You can also import your own photographs, icons, or clip art.

An introduction to MAXMaps and an overview of all of its functions can be accessed by opening MAXMaps and then clicking on the **blue i** symbol in the toolbar.
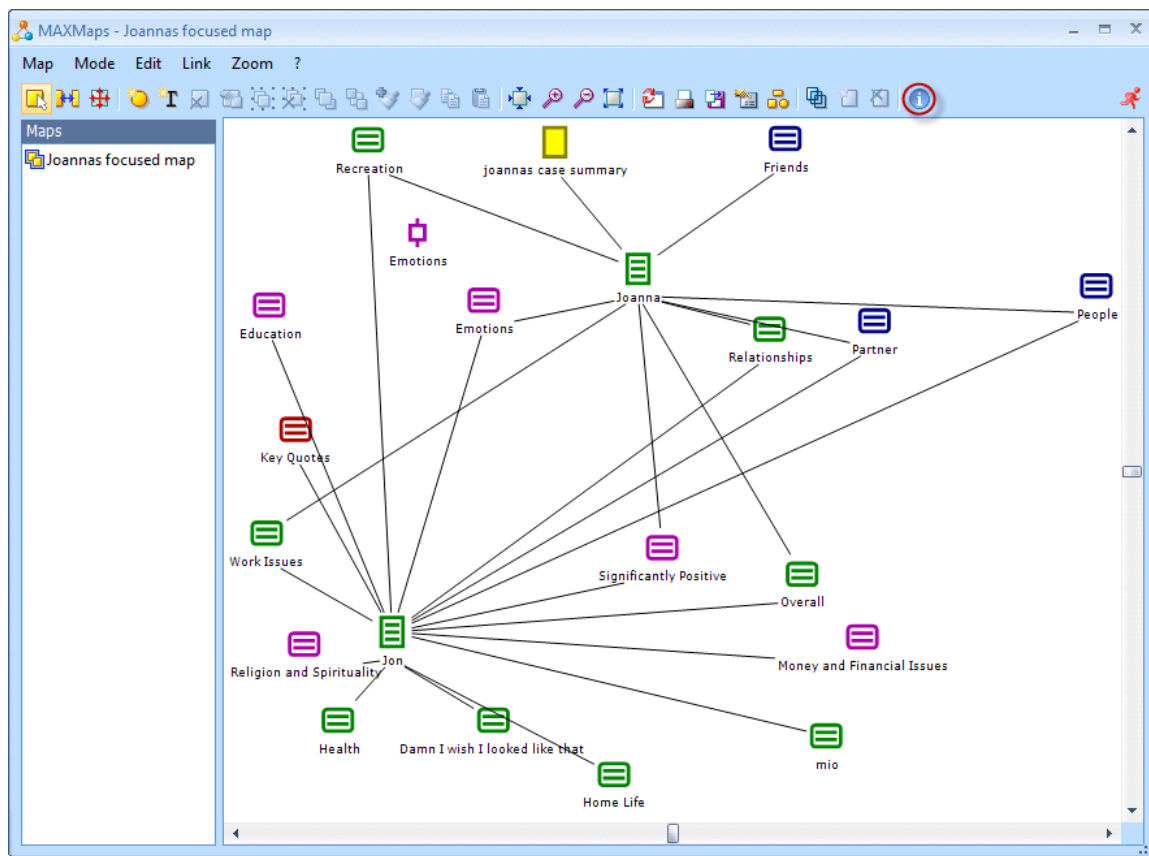

A map displays the relations between codes

17 MAXDictio (Add-On)

MAXQDA users have repeatedly asked for a tool which would allow them to make an index of the words used in a text, and so have access to an additional explorative aid for the evaluation of the text. As a dictionary and content analysis module, MAXDictio makes it easy to explore the vocabulary used in a text as well as to find out which words can be found in which text passages or texts. MAXDictio also enables users to analyse the differences in the vocabulary of the various texts of one project, e.g. the vocabulary used by your interviewees.

After the installation you will see in the familiar MAXQDA interface that the program has been supplemented by the option MAXDictio next to the **?** in the menu bar.

Clicking on MAXDictio opens a drop-down menu and you can select one of the options.
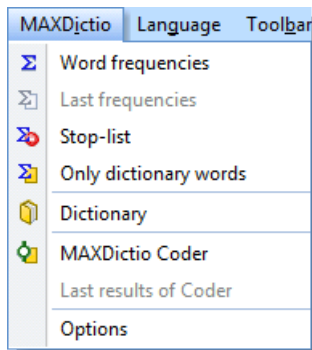
Starting MAXDictio

Besides the vocabulary functions, the MAXDictio module offers a number of techniques which have their origin in the field of classical quantitative content analysis. MAXDictio does not intend to try to compete with software for quantitative content analysis, but rather aims at utilising these techniques for qualitative data analysis and providing these as an additional set of methods in a manageable form.

MAXDictio provides the following functions:

❑ Word frequency analyses in the whole text or in marked passages

❑ Word frequency analyses in text groups or in text sets which have been assembled based on textual criteria

❑ Free definition of text units (whereby these may overlap)

❑ Editing of texts and their assignment to text units, which is possible throughout the process

❑ Exportability of the results of the frequency analysis to Office programs (such as Excel or Word) and to SPSS, also by using the Windows clipboard

❑ Index of selected words of one or more texts

❑ Possibility of jumping from an index entry to the text passage in which it is found

❑ Limitation of the analysis with Go-lists (which contain a list of the words that are to be analyzed) and Stop-lists (which contain a list of those words that are to be excluded from the analysis)

❑ Selective analysis by predetermined criteria, such as the value of socio-demographic variables, and filtering by numeric data

❑ Formation of word-based dictionaries

❑ Transfer of words from the word frequency table into the dictionary (simply by clicking on them)

❑ Export and import of dictionaries from Office programs (e.g. from Excel)

❑ Coding on the basis of word-based dictionaries

❑ Results of the coder as editable and sortable Excel-like table

❑ Further processing of the results in SPSS and Excel

❑ Creation of a validation file for the verification of codes

❑ Total integration in the functionality of MAXQDA which provides convenient functions such as keyword-in-context or the automatic coding of text passages

The simplest function in MAXDictio determines the vocabulary of all texts of a current project.

This function can be accessed by

❑ either selecting the option **Word frequencies** in the MAXDictio menu

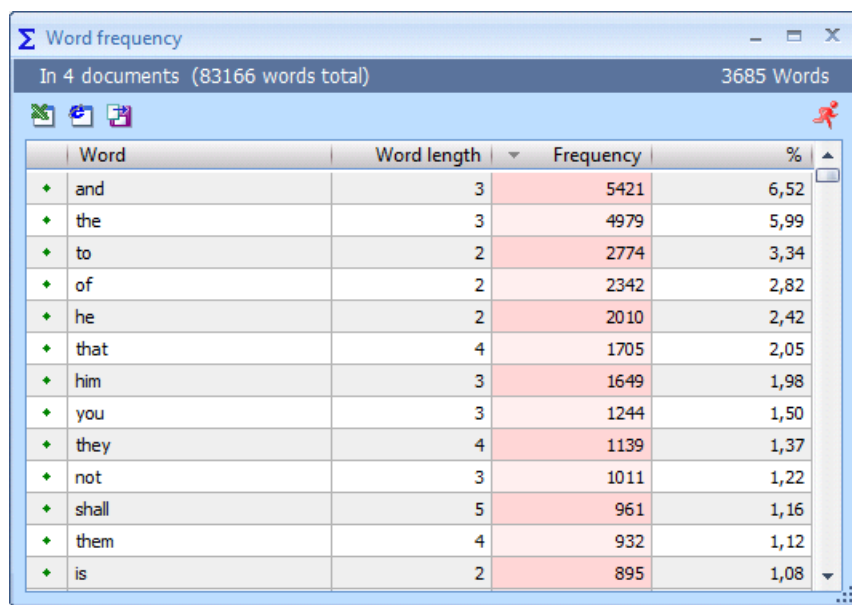❑ or just clicking on the corresponding quick button in the toolbar.

Button for starting the word frequency function

Depending on the size of the project, it may take some time for MAXDictio to work through the material text by text, as each word must be isolated, transferred into a list and counted.

What is a word in MAXDictio? A word is, as explained above, any sequence of letters between two delimiters. Delimiters can be spaces, tabs or punctuation marks. For example, "work." as the last word of a sentence would be delimited by a space on its left and by a period on its right.

The table of results for the word frequency function looks as follows:

Σ Word frequency

In 4 documents (83166 words total)   3685 Words

Word	Word length	Frequency	%
and	3	5421	6,52
the	3	4979	5,99
to	2	2774	3,34
of	2	2342	2,82
he	2	2010	2,42
that	4	1705	2,05
him	3	1649	1,98
you	3	1244	1,50
they	4	1139	1,37
not	3	1011	1,22
shall	5	961	1,16
them	4	932	1,12
is	2	895	1,08

Results of word frequency count

The above table contains the following information:

❑ The number of analyzed texts (top left, here = 4)

❑ The total number of counted and separated words (i.e. "tokens", here = 83,166)

❑ The number of different words in the texts (i.e. "types", here = 3,685)

The first column enables you to quickly exclude a word, to add it to the "Stop-list". Double-clicking on it changes its status. Words are initially on the "Go-list". The depicted symbol is then green. When double-clicked, it changes into a red stop sign.

In the next column are the words, such as they appear in the text. Whether the capitalization of words is displayed or not depends on the selected option (in the Options menu).

The third column contains the word length counted in characters.

The fourth column contains the absolute frequency of each word in the searched texts.

The fifth column contains the ratio of the each word's frequency to "tokens", i.e. the total number of counted words in all texts, expressed as a percentage. In our example the word "and" was counted 5421 times, which is 6.52 percent of the total of 83,166 words.

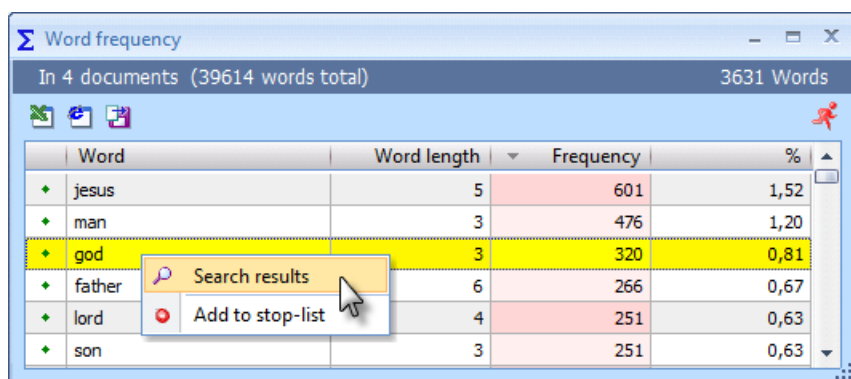You have the following possibilities for handling the table:

An alphabetical list in ascending order is generated by clicking on the column title **Word**.

By clicking on the column header **Word** with the right mouse button, a shortcut menu can be opened which contains, among others, the option **Search**. This option opens a dialog box in which you can type the desired word.

A list of all positions of a word in the text can be created by clicking on the word with the right mouse button and selecting the option **Search results** in the shortcut menu.

By double-clicking on a word it can be added to the active Stop-list.

For each word in the list of word frequencies, an index of the positions in the text where the words are found can be created. Click on the desired word with the right mouse button; then select the function **Search results** from the shortcut menu (see illustration below).
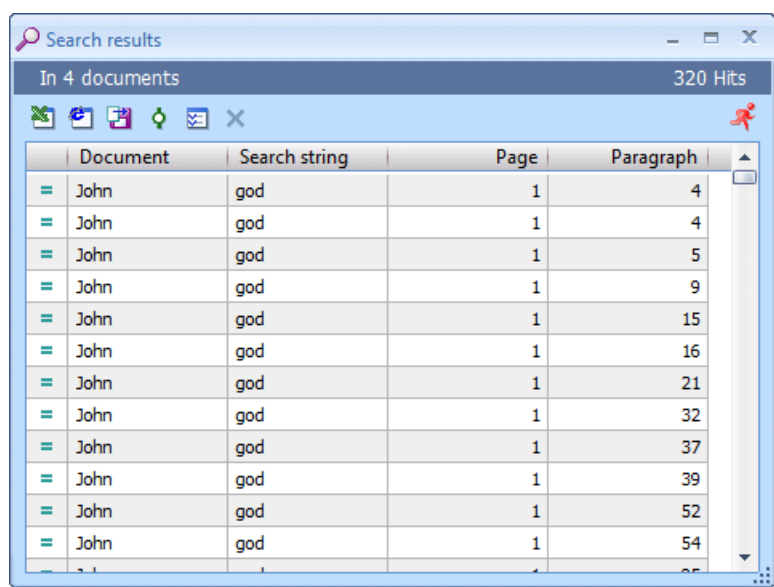

Shortcut menu in the word frequency table

In the illustration above, the word "god" was selected, which appeared exactly 320 times in the 4 texts.

The index which was created above appears as follows:

List of all occurrences of a word in the texts

In the bar at the top of the window, the number of texts in which the word has been found is listed, as well as how many times the word appears altogether, the "hits".

The "Documents" column in the table indicates the name of the text group and of the text in which the word has been found. In the column to the right the search item (here: "god") is listed and in the third column the number of the relevant paragraph in the text is shown.

This table can be sorted according to the data in each of the columns, just like in other tables in MAXQDA, either in ascending or in descending order. Clicking once on the column title will sort the table by that column. By clicking on the column title with the right mouse button you can open the shortcut menu, which, among other options, offers a search within this column.

It is possible to limit the vocabulary analysis to activated texts. To analyse the vocabulary of one particular text, only this one text must be activated. If more texts or a text group are to be analysed, these texts must be activated. With the help of the **Logical Activation** function in MAXQDA, vocabulary analysis for certain groups of interviews can be carried out. This function is called up by

❑   either selecting the option **Count only dictionary words** from the menu

❑   or by clicking on the appropriate button in the toolbar.

Button for word frequency in activated texts

Similar to when using the function **Word frequencies**, a certain amount of time may pass before all texts have been worked through. The time needed is proportional to the amount of selected material which must be processed. Again, all words are isolated, transferred into a list and counted. The results are displayed in a table as seen above, in this case only for the activated texts.

MAXDictio enables you to set up Stop-lists. A "Stop-list" is a collection of "uninteresting" words, such as definite and indefinite articles, conjunctions and numerals. Such words are usually sources of irritation when analysing a text. For that reason, it is advisable to exclude them from the analysis. MAXDictio allows you to create as many "Stop-lists" as you like, as well as to edit and manage them. Words which are in a stop-list will automatically be excluded from the search results table.

To create a "Stop-list", you can either call up the option **Stop-list** in the MAXDictio menu or click on the button in the MAXDictio toolbar.

Button for stop-lists

There are two different ways of adding words to a "Stop-list":

❑ First, you can enter them manually by clicking on the button **New** at the top of the "Stop-list" window and then typing in the word

❑ Second, you can select words from a word frequency list and add them to a "Stop-list" by double-clicking on them. You can thus avoid having to type these words in. It is also possible to transfer several words into a "Stop-list" at once. To do so, mark all desired words. Then click on one of the words with the right mouse button and select the option **Add to stop-list**.

The words in a stop-list are automatically listed in alphabetical order. This order is pre-set and cannot be modified.

Besides its vocabulary functions, the MAXDictio module has a function enabling coding using word-based dictionaries.

There are two ways of accessing the MAXDictio dictionary-function:

❑ through the menu MAXDictio and the option **Dictionary**

❑ through the button in the MAXDictio toolbar

A dictionary consists of categories and a list of search items which are allocated to each category.

A dictionary in MAXDictio can contain any number of categories. Exactly one list of search items belongs to each category. The number of search items is not limited.

To add a new category, click on the button **New category** in the left window containing the list of all defined categories. Then a new category title can be entered. The title is not restricted to a certain length or form. It can also consist of several words, such as "old-age pension". The title of a category can be modified later without this having an effect on the dictionary itself.
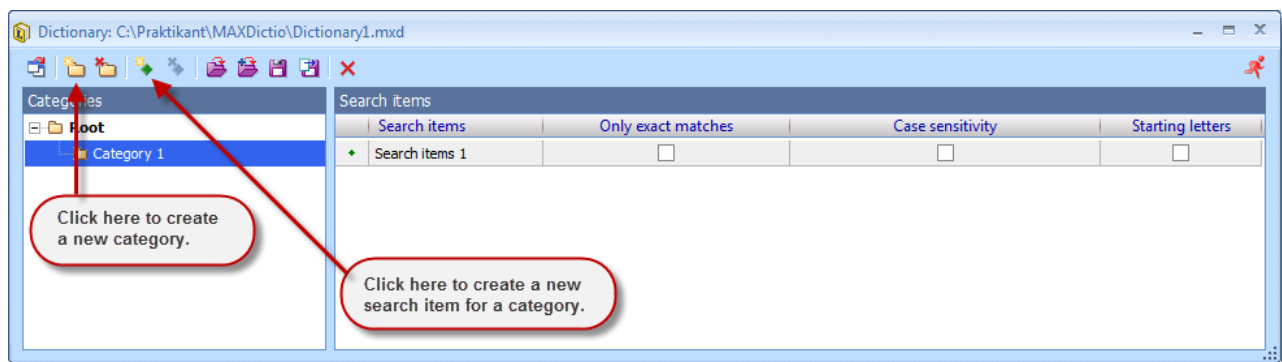
Setting up a dictionary

Initially, when clicking on **New category**, MAXDictio will add a category named "Category #". Here the character # stands for the sequential number of the category in the existing category system. This means that it always begins with "Category 1".

To add words belonging to a category, select the required category by clicking on it with the left mouse button. Then click on **New search item** in the Search items window. Now it is possible to enter a new search item.

Each category and each word belonging to a category can be turned on or off individually for the analysis. The procedure is the same as with the categories. The symbol next to each word indicates its state: green=on, red X=off. Initially, each category (or word) is "on", as indicated by a small green icon. Double-clicking on the icon it will change into a red X. This indicates that the category (or word) will not be considered in the analysis.

Dictionaries may be saved and different dictionaries may be combined into one dictionary.

The MAXDictio coder automatically codes the texts on the basis of an active dictionary. It is important to understand that the term "coding" in MAXDictio has a different meaning than the usual qualitative coding of text segments in MAXQDA. Normally, coding in MAXDictio means that a text segment is assigned a code or subcode in the "Code System". The coding process in MAXDictio is no such assignment of codes to text sections, but rather the quantitative analysis of one or more texts on the basis of the categories and search items in a dictionary.

Thus the coding process of the coder corresponds to the approach in quantitative content analysis, in which the actual text is redundant and is substituted by counts of words and categories. To clarify this: in MAXQDA, qualitative coding would mean, when coding the bible, for instance, to select a text section and then assign the code "Apostle > Peter" to it. Then, by later activating this code, the corresponding passage could be found again. When working with the MAXDictio coder, you would define the category "Apostle" with "Peter" as an attributed search item. Each time the coder finds the search item, the frequency of the word and of the category is increased by one.

The result of such an analysis of the material with MAXDictio is a matrix which contains the frequencies of the categories.

The MAXDictio coder offers a variety of options that are described in the extended manual that is installed together with the program.