Collaborating in Teams

18

You will have no doubt come across two types in your research career: the passionate solo researchers, in the style of Stephen Hawking, who work at a problem day and night largely by themselves, and the team players, who are convinced that challenges are best tackled together. Teamwork is becoming increasingly common in empirical social research. As one example, calls for research proposals often explicitly request multidisciplinary working groups, often in collaboration with various partners. The question this raises is how you can most effectively organize and map out collaborative analysis work involving software. A project not only needs an agreed plan as to who does what and at which point in time; it also demands strict rules and guidelines—to avoid chaos ensuing. It may be, for example, that not every team member is allowed to delete codes, reorganize the category system, or change memos. Rules like these require a user management system, in which project leaders can define detailed permissions for each team member.

In This Chapter

- Understanding teamwork and differentiating between various ways of sharing research work
- Managing and distributing externally stored files
- Organizing and implementing the division of work: merging two projects together and transferring analysis work from one project to another
- Reviewing analyses as a team
- Allocating permissions to individual team members participating in a project

U. Kuckartz, S. Rädiker, *Analyzing Qualitative Data with MAXQDA*,
https://doi.org/10.1007/978-3-030-15671-8_18

Different Forms of Teamwork and Division of Work

The roles collaboration and the division of work on projects play are different between qualitative and quantitative research. While the analysis procedures for quantitative data are largely standardized and can sometimes even be entirely "outsourced"—complete with the data collection process—to external service providers, the qualitative data analysis process involves a more time-consuming examination of the data. Hence, teamwork is arguably more important for the analysis of qualitative data than for quantitative data. Collaborative data analysis and interpretation has a long tradition in qualitative research; this is reflected in the regular calls for joint analysis groups through specialist mailing lists as well as the many workshops at qualitative methods conferences in which participants discuss, interpret, analyze, and comment on research data using variously formalized techniques. The frequently debated topics of "intersubjectivity," "consensual validation," and "reflexivity" provide further evidence that teamwork is central to qualitative research. Against this background, several questions arise as to how the division of work can be efficiently and effectively designed for qualitative and mixed methods research projects involving the software MAXQDA.

The more people are involved in a research project and the more complex the required analysis, the more important it is to define guidelines that serve to structure the collaborative work with MAXQDA. Which transcription rules need to be observed? Which analytical information should be recorded in memos and which in code comments? Which memo icons are to be used to identify certain issues and contexts? How extensively should the data be coded; do the questions asked by the interviewer also have to be coded or are the interviewee's responses sufficient? How should repeat occurrences of the same information in the data be dealt with; should they be coded several times or just once? How extensive should summaries be and at what level of abstraction? These and other questions must be clarified with the team and recorded in writing, e.g., in the logbook of the MAXQDA project (see Chap. 3).

Working in teams and sharing the analysis work can be organized in different ways using MAXQDA. However, please note that MAXQDA is not a multiuser system, which means that several people cannot access and edit the same project file at the same time. MAXQDA instead offers numerous functions for simultaneous work with project copies, and you can merge these copies together or transfer analysis work from one project to another at any time. There are three different ways a collaborative project might start out, each of which are accompanied by distinct technical approaches in MAXQDA:

Model 1 *Several people work with the same project file at separate times in succession. Team members pass the project file on to the next person after each step.*

This model is the simplest for working collaboratively, and it is ideally suited to projects in which different team members work on the data at different stages. For example, the project leaders first develop a code system and coding guideline, another team member then uses these specifications to code the data, and the project managers finally evaluate the completed coding work. With the help of MAXQDA's User Management system, which we will explain in detail at the end of this chapter, you can define and restrict the permissions of team members according to their responsibilities during the analysis process. This is recommended to prevent inadvertent changes being made to the code system or the texts being analyzed.

The project file can also be stored centrally on a network drive or can be distributed across several computers via cloud services such as Dropbox, Google Drive, and OneDrive. With this procedure, however, you need to define a rule system which ensures that the file is only ever opened by one person at a time to avoid subsequent file conflicts. We would also advise against opening the project file directly from a folder synchronized with Dropbox or other cloud-based systems. That said, to be on the safe side, you could create a copy of the project file in a local folder before you start working on it and then save the file with a new timestamp when you have finished editing it. This will ensure that slow network connections do not hamper your work or cause cloud services to synchronize only fragments of your MAXQDA project file, which could potentially damage it.

For this model of collaborative work, it is not necessary for all team members to have a MAXQDA license. You can pass a MAXQDA Portable License round on a USB stick, for instance, or share a computer on which MAXQDA is installed.

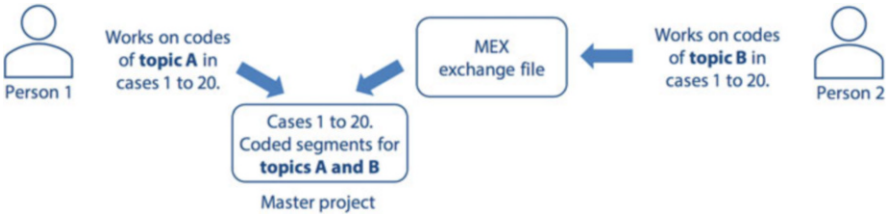
Model 2 *Several people work on different cases of a project at the same time. Your project files contain different documents, and these are later merged together to form one project.*

When sharing the workload in this way, project's cases are divided among the team members such that each of them receives a project file with the documents they need to process. This model is especially suitable when the team members do not necessarily need to be able to view all the documents at all times, for example, to compare them, or when the volume of data is very large and needs to be distributed. The team often works with the same code system for this type of work, which can be easily protected against changes with the help of MAXQDA's User Management function. However, the use of an entirely identical code system across all project files is not mandatory; MAXQDA's teamwork options will still work later in the process, since these options allow you to work with differing or partially overlapping code systems. Once all the project's team members have completed their cases, the

individual project files are merged into a single project, which will then contain the complete set of documents and can then be made available to all or selected team members so that the project data can be analyzed further as a whole.

If your team plans to work according to this model, i.e., simultaneously, then several MAXQDA licenses are required.

Model 3 *Multiple people work on the same cases at the same time. The project files contain identical documents and the codes, variable values, memos, and summaries applied to one, several, or all documents are later merged into one of the projects, which from then on functions as the "master project."*



This collaboration model is very common, as it allows all team members to have all the material in front of them at all times. Often individual team members work on different topics in the documents, adding existing and sometimes new codes and writing memos and summaries for their respective topic area. Once the individual work on the documents has been completed, the coded segments, memos and summaries, as well as any variable values and links contained within individual documents, document groups, or all documents are transferred from the various projects into a "master project" via an export file in the MAXQDA exchange format.

To ensure a smooth transfer of the analysis work, it is essential that the documents in all of the projects are identical. This is usually guaranteed for PDF and image documents as well as for videos, since their contents cannot be changed in MAXQDA. The situation is different for text and table documents: as these can be changed in Edit Mode, they should at least be set to "read-only," which you can do by selecting the ***Properties*** option in the document's context menu. It is quicker and safer, however, to deactivate the permission to change text and table contents for all team members in MAXQDA's User Management system.

Several MAXQDA licenses are also required for simultaneous work to follow this model.

The three models of collaborative work are by no means mutually exclusive and can be combined with one another. There is no reason why team members should not be able to work on one project file one after the other, before a further analysis round sees the data divided among them. Moreover, for model 3 it is not absolutely essential for all the documents to be available in every project. The relevant documents only need to exist in the target project, which you can do by merging projects if needed. Experience suggests that it is a good idea to designate one person

as the "file master," who can ensure that individual team members are working with the right data and are sticking to the agreed rules for the collaborative work process.

Regardless of which variant of teamwork you choose, you should make sure that you log in to MAXQDA with the same user name each time you start work, so that all changes you make to the project are tagged with your name. This ensures that even after merging projects, or transferring analysis work to another project, the performed work can be attributed to the correct team member.

Merging Two MAXQDA Projects

The MAXQDA function used in the second teamwork model to merge two projects together is always suitable where both contain different documents that need to be combined to form one project. From a technical perspective, the merging process takes place in such a way that the data of one project is integrated into another already open project. It therefore makes sense to open the larger of the two first, because then less data needs to be imported. To start the merging process, open the ***Merge Projects*** function in the ***Home*** ribbon tab, and then select the project file you want to add to the open project. As a MAXQDA project can contain only one logbook, only one memo per code, and only one project memo (this is the memo at the top of the "Document System"), MAXQDA will ask you before merging the two whether any existing data should be retained or replaced by the data in the imported project.

Figure 18.1 illustrates the principle of the merging process. Imagine a simple project A with the document group "Interviews" and the three documents "Interviews 1, 2, and 3," into which you import project B with the "Interviews 4 and 5." The merged result can be seen on the right: by default, all document groups of the imported project are added to the "Document System" of the open project. A

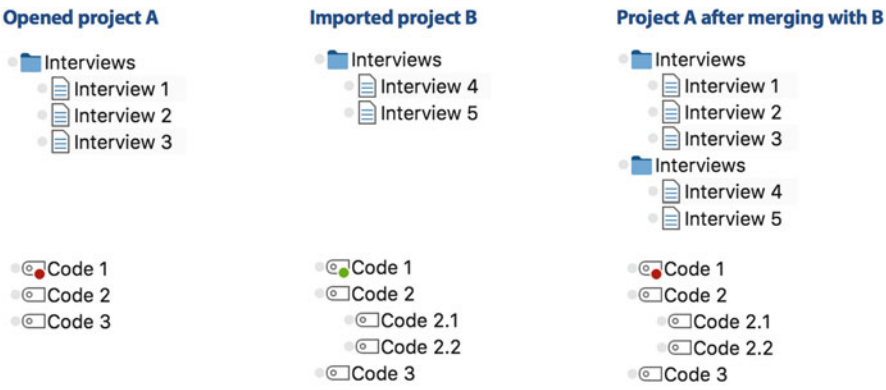


Fig. 18.1 "Document System" and "Code System" before and after two projects have been merged

second document group called "Interviews" has been created, which contains interviews 4 and 5 from the second project. The code systems of both projects have also been merged. Codes 2.1 and 2.2 were only included in project B and have been added to the code system of the open project A. During the merging process, codes bearing the same name at the same location are considered identical. The code color, if assigned, is not taken into account, which is why in this example, MAXQDA considers the red "Code 1" from project A to be identical to the green "Code 1" from project B.

If the projects you want to merge contain document groups or document sets of the same name, you can select the option ***Merge document groups/document sets with same name*** in the import dialog box. In the example above, this would mean that no further "Interviews" document group would be added to the "Document System"; instead, interviews 4 and 5 would be added to the existing document group. And if you want to combine several projects, some of which contain identical documents, the option ***Don't import already existing documents*** is also quite useful. This ensures that documents with the same name and document group are skipped during the merging process, so you can avoid ending up with annoying duplications of the same documents.

When merging two projects, all the data from the imported project is transferred to the open project, including summaries, internal and external links, and graphics created with MAXMaps. Variables are also transferred, that is, variables that do not exist in the open project are also added from the imported project.

Transferring Codes, Memos, Summaries, Variables, and Links from One Project to Another

The "Teamwork Export/Import" functions described in this section elaborate further on third model above for sharing analysis work. These functions are particularly useful if you have identical documents in several MAXQDA projects and want to transfer analysis information like codes and memos between these projects. Suppose Jacob and Emily are both working on the same five documents in their respective MAXQDA projects. Jacob codes topic A in the documents and Emily codes topic B, with corresponding codes for each topic included in the code systems of their individual project files. In this case, we are looking at the scenario illustrated in Fig. 18.2.

To transfer all 195 coded segments that Emily has made in her project to Jacob's project, Emily first opens the function ***Teamwork > Export Teamwork: Export Data to Exchange File*** in the context menu for the document group "Analysis of documents" and then selects the name and location for the export file. MAXQDA records all information required for the exchange of the five documents in this file, which is stored in the format "MAXQDA Exchange File" with the file extension *.mex*. This exported file can then be sent to Jacob by e-mail or via a cloud service. Jacob opens his existing project file as usual and then selects the counterpart to the export function in the context menu for the document group "Analysis of

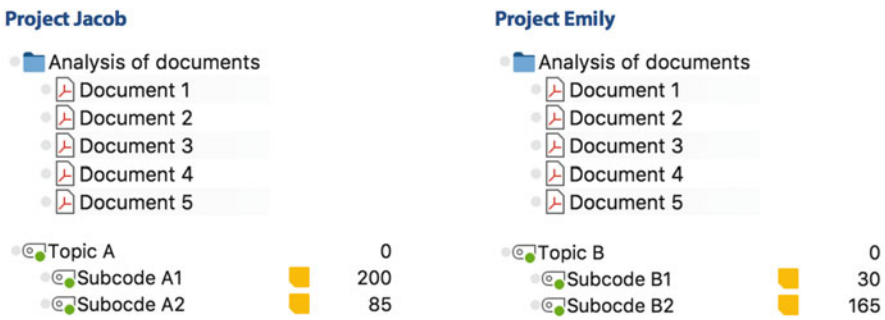


Fig. 18.2 Initial scenario before the teamwork transfer

documents," namely, ***Teamwork > Import Teamwork: Import Data from Exchange File***. In the file dialog box that opens, he then selects the file he received from Emily, whereupon MAXQDA opens a further dialog box in which he can check whether the source and target documents are correctly matched. Provided that the documents have not been renamed in the target project, MAXQDA automatically assigns the source documents to the correct target documents based on their names.

▶ **Tip** To ensure that your teamwork runs smoothly, documents and document groups should not be renamed during the course of a project or assigned to other document groups. Additionally, you should always ensure that your documents and document groups are assigned unique names, that is, that these names are assigned once only. Only then will identical documents actually be recognized as such.

In the options dialog box, you can also specify which elements of the data you want to import and how to proceed in the case of conflicts with code assignments and summaries. A coding conflict occurs when a code assignment is to be added to a document which has already been assigned with the same code at the same location, since MAXQDA functions according to the rule that the same code can only be assigned once per segment. A summary conflict arises if the opened project and the imported data contain a summary for the same code in a document. The following list describes how MAXQDA processes different data types during a teamwork import and explains which options are available for dealing with conflicts. The options specified apply to the entire import process; you cannot instruct MAXQDA to proceed differently for individual coded segments or variables.

- *Coded segments*—All coded segments including the corresponding comments and weight scores are inserted into the target project. Four variations are available in the options dialog box for dealing with conflicts in which an identical code has already been applied to a segment: (1) the existing code assignment is retained; (2) the imported code assignment "wins" and overwrites the existing code

assignment; (3) with the "OR combination," the outermost limits of the overlapping code assignments are taken; and (4) with the "AND combination," only the intersecting area of the overlapping assignments is coded.
- *Codes*—The codes from the imported file are added to the bottom of the code system, if they are not included here already. Codes with the same name, and at the same position in the code system, are interpreted as identical, but any assigned colors are ignored in this process.
- *Variables*—Here the same procedure is applied as when importing a data matrix for variables: variables that do not yet exist are added, and existing variable values are updated.
- *Memos*—The memos in the "Document System" and the "Code System" are imported if no memo has already been assigned at the corresponding location. Memos within documents are imported if no memo with the same title has been assigned at the same location in the respective document. Free memos (these are memos that are not linked to any MAXQDA elements) are always added.
- *Summaries*—If there is no summary at a given location, the summary is added directly from the import file. If a summary has already been created at that location, MAXQDA offers you the option of specifying whether (1) the new summary from the import file is additionally attached to the existing one, (2) the new summary overwrites the existing one, or (3) the new summary from the import file is ignored.
- *Links*—Links within a document leading to external files or web pages are transferred if there is no link at the same location. If there is a link at the same location, the links in the import file are not accepted.

During the import, MAXQDA checks each document individually to see whether it is identical to the document from the export file. This ensures that the import is free of errors, e.g., if the source and target documents were incorrectly assigned to each other by mistake or they don't match for any other reason. If MAXQDA discovers a difference between two documents, you will see a warning message. If this happens, skip the import process for the document in question, and then compare the two documents for differences. You can do this quite easily for text documents with the "Compare" function in Microsoft Word, which lets you see the differences between two documents.

In the example at Fig. 18.2, the Import Teamwork process adds the code "Topic B" and its two subcodes, as well as the two corresponding code memos, to the code system in Jacob's project. The coded segments of these subcodes are also transferred to the documents in Jacob's project. The project has 285 existing coded segments + 195 transferred = 480 code assignments after the import.

You can transfer teamwork using MAXQDA exchange files from individual documents, from document groups, or from all the documents in your project. If you start the process from a single document's context menu, only this specific document's information will be included in the export file. If, on the other hand, you start this process at the very top row of your "Document System," the relevant

information will be exported for all the documents in your project. If you have done the latter but want to complete the import process for only certain individual documents in the target project, you can start the import process from the context menu of a document in the target project and then, if necessary, adjust the individual allocations of source and target documents. To transfer analysis data between two projects, these projects do not need to contain the same complete data set; it is important, rather, that those documents whose information you want to transfer are identical in both projects. However, as Fig. 18.2 demonstrates, not all codes need to be identical.

Box 18.1 describes the procedure for transferring analysis data from one project to another:

Box 18.1: Transferring Analysis Data from a Source Project to a Target Project

- Open the source project from which you want to transfer the data.
- Right-click either on an individual document, document group, or the top line in the "Document System"—depending on the documents for which you want to transfer the analysis data. From the context menu, select ***Teamwork > Export Teamwork: Export Data to Exchange File***.
- Select the codes to be exported and click ***Next >>***. Assign a file name, and select a location to save the file with the transfer information—and make sure you remember this location.
- Close the source project and open the target project.
- Right-click on the document, document group, or the top row in the "Document System"—depending on the documents to which you want to add the analysis data. From the context menu, select the option ***Teamwork > Import Teamwork: Import Data from Exchange File***.
- Select the file you saved earlier.
- Then, in the dialog box that opens, check whether the source and target documents have been correctly matched, and specify which information you want to transfer. Click ***Import*** to start the transfer.

Managing External Files When Collaborating in Teams

With all of these various approaches to collaborative work, you need never worry about whether your team members are using Mac or Windows computers; MAXQDA's teamwork functions can be used seamlessly across both platforms. What you should give some thought to, however, is how to go about saving and transferring external files if you are working with projects where not all the documents displayed in the "Document System" are included in the actual project file.

As discussed in Chap. 3, audio and video files are not imported into the project file by default—images and PDF documents may also optionally be saved externally. In these cases, the files in question are instead stored in the "Folder for external files." You can freely designate a folder on your system as this external files' folder via MAXQDA's global preferences. If you are working in a team with a project that contains externally stored documents, it is very important that these files are available in the designated external files folder on each computer the MAXQDA project is being worked on. To make sure of this, you can distribute these files via a USB stick or shared network drive to the individual team members, who can copy them to the appropriate folder on these computers.

We always strongly recommend that you use a local folder for the external files so that MAXQDA can load these files quickly. Network drives are therefore not an ideal location, since they can cause annoying delays when opening or browsing a document. A shared Dropbox, on the other hand, or similarly synchronized folder, can be used to distribute external files between team members, because these folders store copies of the files locally on each respective computer.

► **Tip** If the local storage space is not sufficient, e.g., because you need to analyze very large video files, you can also store the external files on an external hard disk connected via a fast USB 3.0 port.

If you are unsure whether a project contains external files, go to ***Home*** > ***External Files***: this function gives you an overview of all your external files, and you can easily identify any files not included in your project file. If the overview is empty, you don't need to worry about any external files for this project.

Communicating About the Analysis in a Team

A great advantage of working collaboratively is that it gives you the chance to talk about the analysis work as a group, discuss uncertainties, and thereby improve the quality of the analysis. This applies to each step of the research process: from the development of suitable survey instruments and appropriate analysis categories for the collected qualitative data to the interpretation and publication of the analysis results. Particularly when it comes to the coding process, which is often at the core of the analytical work of qualitative research projects using MAXQDA, the team can define review procedures to systematically check completed coding work. Alongside the use of the functions for determining the level of intercoder agreement (cf. Chap. 19), this includes the successive checking of code assignments by different team members. The code weight function and the code comments are particularly well suited to these review processes. These functions allow team members to log the status of individual coded segments in the data and to communicate this status with other team members throughout the analysis process.

Using Weight Scores of Coded Segments for Teamwork

Working with the weight function involves two very simple steps. First, all the coders in the research team set a default code weight in MAXQDA's global preferences—this could be any weight but should be uniformly agreed upon, e.g., 20—such that all future coded segments are automatically provided with this weight. Of course, depending on your project's requirements, your team may instead agree that coders should only apply a weight of 20 to code assignments they are uncertain about or want to discuss further.

In the second step, a second team member, e.g., the project manager, checks the coded segments and sets them to 100, or another agreed weight score, to indicate that these assignments have been successfully reviewed. To check the coded segments with a particular weight score, you can compile them in the "Retrieved Segments" window using the weight filter. To do this, right-click in the gray area of the window, select the function ***Edit Weight Filter***, and enter a minimum and maximum value for the codes to be displayed. You can then click on the weight icon in the status bar along the bottom edge of the MAXQDA interface to switch the weight filter on or off. Alternatively, you can also sort the Overview of Coded Segments table according to the "Weight score" column to gain quick access to the coded segments you are interested in reviewing. This function also offers you the major advantage of being able to change the weight scores directly in this table once you have finished reviewing them.

You could also apply various other types of "status" to coded segments using these weight scores. In unclear cases, for example, it may be helpful to specify a number for a "discuss as a team" status. The meaning of these respective numbers should be available for everyone to see in the logbook or a project memo at the top level of the "Document System" window.

Using Comments of Coded Segments for Teamwork

While the code weights only allow you to communicate with other team members using numbers, you can also record textual information during the coding process in the form of comments on specific coded segments. As described above for the weight function, different statuses of coded segments can be recorded in comments with the aid of agreed abbreviations—and they can be supplemented with additional notes for the other team members.

Managing Permissions and Restrictions for Team Members

For each MAXQDA project, you can define a separate user management system, which allows you to provide individual team members with specific permissions for working on or editing a project. It is important to emphasize, however, that this user management system does not offer increased data security by encrypting the data; instead, limits placed on permissions in MAXQDA are intended to ensure a good workflow in the team and to prevent individuals from inadvertently changing a predefined code system, which would hinder the collaborative process. The

procedure for activating MAXQDA's User Management system for a currently opened project and assigning permissions to users is described, step by step, in Box 18.2.

Box 18.2: Activating MAXQDA's User Management System and Assigning Users

- Go to ***Home*** > ***User Management*** > ***User Management***.
- Enter a password in the dialog box that opens. MAXQDA then adds a new user to the system with the name that you are currently logged with. The new user is automatically assigned the highest permission level.

The User Management window shown in Fig. 18.3 will then open, in which you can assign different permission levels to four different user groups. The default settings are based on a typical research team with a project manager ("Admin" group), research staff ("Level 1"), and assistants ("Levels 2 and 3").

- Check whether the predefined permissions of these respective groups meet the requirements of your project. Once you have clicked on a group in the left window area, you can switch this group's individual permissions on and off in the right window area by clicking on either the tick or stop sign.
- Select one of the levels with your mouse, and then add as many users as necessary to it using the first icon at the bottom of the dialog box. When you click on a user, you can subsequently change which group they are assigned to. The user name is sufficient for logging in to the project, but you can also enter additional information about the user in the "Name" and "Comments" fields, if required.
- Distribute the project to all your team members and tell them their respective user names.
- When a team member opens the project file, he or she enters their assigned user name. The password field must remain empty the first time you log in. Clicking on ***OK*** opens a dialog box in which each user must create their own password with which they can access the project from then on.

▶ **Please Note** Once you have switched on the User Management system for a MAXQDA project, the project can only be accessed if you log in with one of the user names listed in this system. If the default permissions of the user groups have not been changed, only users of the highest permission level can access the User Management system. These users should therefore take extra care to remember their passwords.

In Fig. 18.3 you can see that the user "Camilla" was automatically added to the "Admin" group when the User Management system was opened for the first time. The key on her user icon indicates that a password has already been assigned to her

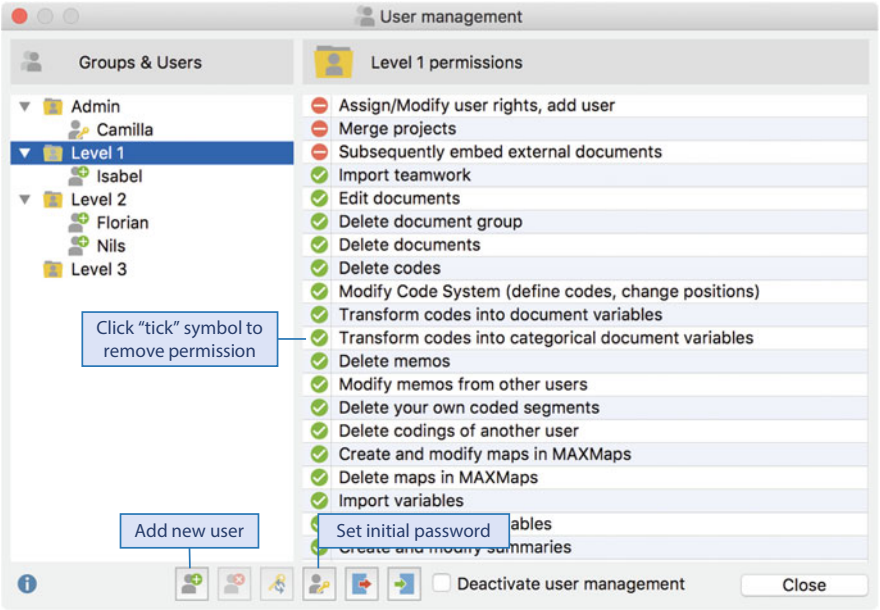


Fig. 18.3 Assign permissions for respective user groups, in this case "Level 1"

user name. For all the other users, however, the plus sign indicates that they are yet to "log in to the project" and have not entered their own passwords. As an additional security measure, you can define a password in the User Management window, by clicking the ***Set initial password*** icon. All new users must then enter this password the first time they log in to the project and before they can choose their own password as a next step.

The permissions system for a project can be switched off at any time by selecting the corresponding option at the bottom of the User Management window. Here you will also find an icon that allows you to export the complete User Management system of a MAXQDA project, including its user names, passwords, and permission settings, as a single file. The complementary ***Import*** function lets you import this system into another MAXQDA project. This transfer option can save you a lot of work when setting up new team projects.