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Teaching and Learning International Survey (TALIS)

2013

Data Management Manual

(Main Study Version)

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Consortium:

International Association for the Evaluation of Educational Achievement (IEA, Amsterdam, The Netherlands)

IEA Data Processing and Research Center
(IEA DPC, Hamburg, Germany)

Statistics Canada (Ottawa, Canada)

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1 DATA MANAGEMENT TASKS

1.1 Overview

1. TALIS 2013 is a challenging educational Survey. The contribution that the National Data and/or Project Manager and his team make is crucial to its success. This document is provided by the TALIS International Study Centre (ISC), the IEA Data Processing and Research Center in Hamburg, Germany, to assist you, the National Data and/or Project Manager, with within-school sampling, instrument preparation, and data entry for the TALIS Main Study.

2. The manual has been updated from the Field Trial version, where new functions, features or processes have been included, this will be highlighted by use of this graphic: New

3. The manual covers the following tasks:

- **Within-School Sampling and Tracking with WinW3S (chapter 2)**
  This chapter is important for the staff assigned to work on within-school sampling and the preparation of forms and labels. We recommend that this group also makes itself familiar with the *School Coordinator Manual* as a complementary document from the school perspective.

- **Preparing for Online Data Collection with the IEA Online SurveySystem Designer (chapter 3)**
  Please provide a copy of this chapter to the staff assigned to the copy-and-paste conversion of the Word questionnaire files to the SurveySystem.

- **Preparing for data entry with the IEA Data Management Expert (DME) (chapter 4)**
  This chapter describes the DME software used for manual data entry and corresponding conventions. It is mainly designed for Data Managers to understand thoroughly the structure of the data files and its variables. You are free to give a copy of this chapter to your data entry staff or external subcontractor. This includes subsections on:

  – **Understanding the DME codebooks and database structure**
    This subsection helps you to understand the structure of the TALIS codebooks and the DME database.

  – **Managing DME files and projects**
    This subsection helps you to create maintain and back-up your national DME database.

  – **Making National Adaptations**
    This subsection is addressed to National Project Managers (NPMs) and/or National Data Managers (NDMs). It assists you in implementing national adaptations in both DME and the SurveySystem. Please refer also to corresponding rules and instructions in the NPM manual.

  – **Manual data entry from questionnaires**
    This subsection helps you prepare to manually enter data from paper questionnaires, organise materials, train and supervise staff, and assign staff to batches, as well as data editing and import.

  – **Verifying and editing data with DME**
    This subsection is addressed to NPMs and/or NDMs. It assists you both in ensuring the integrity of the data and with controlling the work of your data entry staff or subcontractor.

- **Submitting data to the IEA DPC (chapter 5)**
  This chapter addresses the submission of data to the IEA DPC.

Please Note!

If you deviate from the procedures given in this manual or the Technical Standards without prior approval of the IEA DPC you risk compromising the ability to appropriately measure or compare your country's data with other countries participating in the Survey!

Any anticipated deviation from these procedures should be brought to the attention of the technical staff at the IEA DPC <u>before</u> implementation!

1.2 Consortium contact details

4. If you have questions about the procedures described in this manual, please contact the International Study Centre at the IEA Data Processing and Research Center in Hamburg, Germany.

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1.3 Resources, materials and training

5. Together with this manual, you will need the following materials:

- **Windows Within-School Sampling Software (WinW3S-II)**
  All countries participating in this Survey have to meet the standards of sampling quality set in cooperation with Statistics Canada, which has developed a set of sampling procedures, that countries must follow strictly. To help NPMs to achieve this goal efficiently and effectively, the IEA DPC has devised the Windows Within-School Sampling Software (WinW3S-II), which largely automates the within-school sampling process.

- **IEA Online SurveySystem Designer Software (OSS)**
  This software allows you to prepare all questionnaires for data collection over the internet. There is no alternative to using the SurveySystem if you want to participate in the Online Data Collection (ODC).

- **Data Management Expert (DME) Software and Codebook**
  Only this software may be used for entering the TALIS data. DME includes a series of checks and verification procedures that help ensure the quality of the data as it is being entered. As part of the DME send-out, the IEA DPC will also provide a codebook for use in DME for the international instruments.

- **National Project Manager Manual, the Main Study Guidelines and the Translation Adaptation Guidelines**
  These two documents describe the general steps and procedures in the TALIS survey, including school contact, translation, and guidelines for national adaptations.

- **Data Management Seminar Presentations**
  We also would like to encourage you to review the examples and presentations and materials that were given during the Data Management Seminar in Cancun, Mexico from November 16-18, 2011.

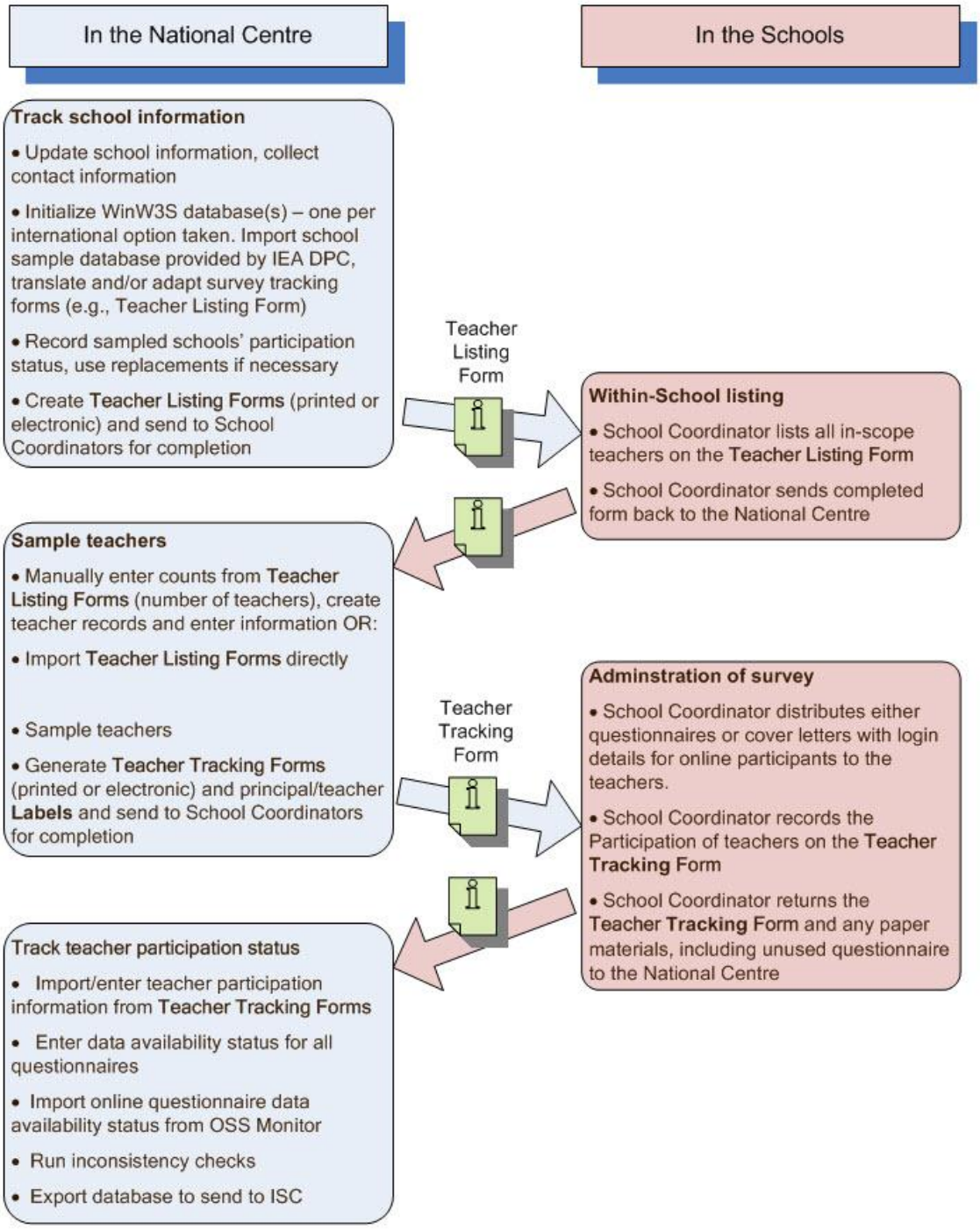
6. All of the above-mentioned materials can be downloaded from the TALIS SharePoint:

- **https://talis.iea-dpc.org**
  NPMs and NDMs should already have received a username and password to access this page.

2 WITHIN-SCHOOL SAMPLING AND TRACKING WITH WINW3S-II

2.1 Overview

7. For TALIS 2013, the WinW3S software has been significantly updated to improve speed, features and efficiency. However, the basic process of steps involved in performing the within-school sampling procedure in WinW3S-II should be familiar to users of the version from 2008. The diagram below provides a general overview of these main steps, including the use of the corresponding forms:



2.2 Introduction to the 2013 version of the Within-School Sampling Software (WinW3S-II)

8. With the Windows Within-School Sampling Software (WinW3S), we provide participants with a program that enables them to perform the within-school sampling following the sampling procedures and rules specified in cooperation with Statistics Canada. The graphical user interface provides easy-to-learn features for selecting the within-school sample, preparing listing and tracking forms, assigning materials to respondents and printing labels for questionnaires or cover letters.

9. Compared with the 'paper and pencil method', the use of the WinW3S software reduces the time and effort needed to perform the within-school sampling process. In addition, the number of possible error sources is considerably reduced, because the WinW3S software is based on a relational database system and only uses procedures approved by the IEA DPC.

10. The WinW3S software assists you in performing the within-school sampling process as follows:

- The software handles and stores the necessary *Teacher Listing Forms, Teacher Tracking Forms* and various labels in a straightforward way. All forms and labels are prepared in English; there is the possibility to translate these into any other language.
- The software randomly selects samples of teachers based on the information entered and in agreement with the rules defined in collaboration with Statistics Canada.
- The software simplifies the hierarchical assignment of unique identification codes (IDs) by automatically generating teacher IDs based on the school IDs assigned by the ISC.
- Repeated entry of identification and tracking form information into the DME database is unnecessary. A checksum code is printed on each questionnaire label in addition to the unique ID. This procedure assures the correct linkage between the tracking information kept in the WinW3S database and the survey instrument data, which is stored in the DME database.
- Status information and an inconsistency report highlight missing or inconsistent information within the WinW3S database.
- A function is provided to produce an estimate of school response rates.
- The program will produce an 'export' database, with all personally identifying details suppressed.

Please Note!

The *IEA WinW3S-II* software and all accompanying materials and manuals are property of the International Association for the Evaluation of Educational Achievement.

2.3 Installing WinW3S

11. To install the software on your computer proceed as follows:

    1. Download the setup file from **https://talis.iea-dpc.org**
    2. Start the setup assistant by double-clicking the file "WinW3S (TALIS 2013 MS) Setup".
    3. Follow the instructions given by the installation wizard.

12. In order to run the software properly, different components (*e.g.* for database access) will be installed on your system. In most cases, the setup will require you to have administrative access to the computer.

13. A detailed list of the components to be installed on your machine, as well as additional information for the setup process can be found in the WinW3S-"Readme"-file that is also available on the study homepage. After installation, this file will be available in the WinW3S program directory ('*C:\Program Files\IEA\WinW3S-II_TALIS13MS'* for systems configured for English language).

14. To be able to create, save and print PDF documents, Acrobat Reader 4.0 or higher is required. As versions 4 and 5 of the Acrobat Reader have problems to display non-Latin characters (*e.g.*, Hebrew, Thai, Mandarin Chinese) it is recommended to use version 6.0 or later. You can download or update the Adobe Acrobat Reader from **www.adobe.com**.

2.4 Overview of WinW3S

To create a new WinW3S database, go to the **Start** menu of your computer. Choose the **Start →All Programs →IEA →WinW3S II – TALIS 2013 MS** sub-menu, and then click on **WinW3S II - TALIS 13 MS**. Alternatively, double-click on the desktop shortcut icon that should have been created when you installed the software. Having started the program, the WinW3S Main Window will be displayed. All further actions will be performed from here. The two screenshots in this subsection show the state of the program with some data already entered for clarity:

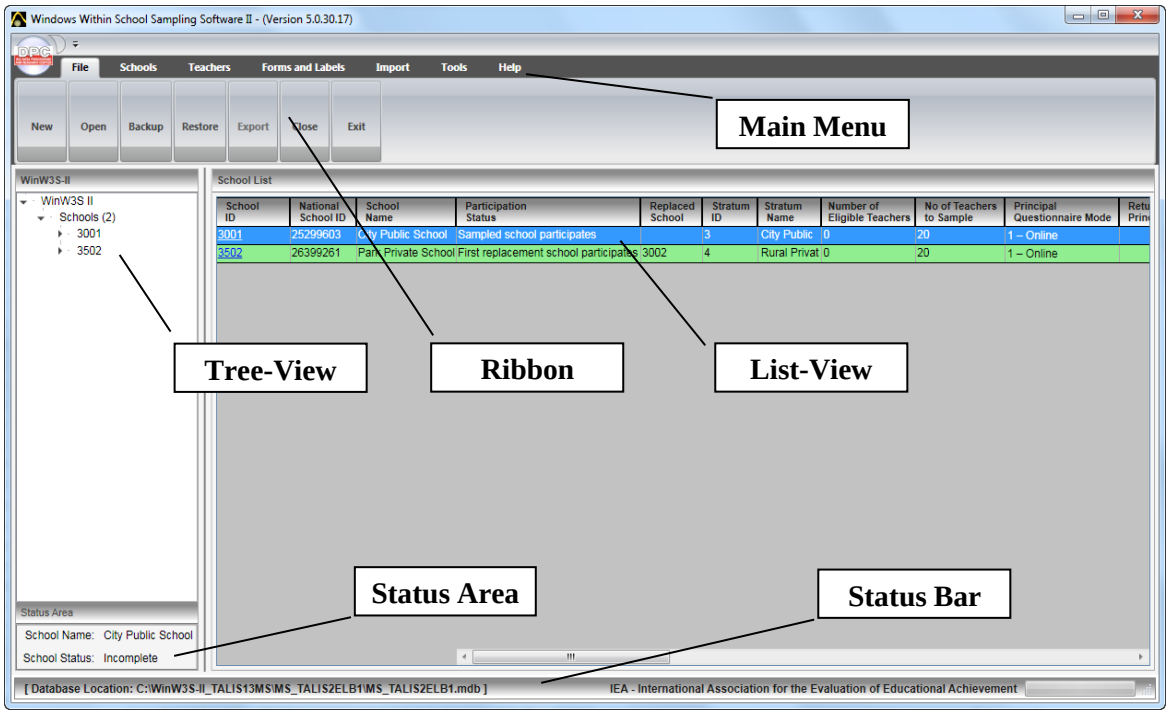


Figure 2-1 WinW3S Main View

- **Main Menu Bar**
  Like most Windows-based program, WinW3S has a main menu bar from which you can select several submenus displayed in the "**Ribbon**". You can select the tasks you want to perform with WinW3S from these menus.

- **Tree-View**
  On the left-hand side of the screen you will find a 'Tree-View' control that allows you to select schools and teachers. The top-level node is assigned to the program (WinW3S II). If you expand this node by clicking on the plus sign, the school node will be shown. Expanding this node will display all schools that have been defined as Participating. Expanding the node for a single school will list the teachers for that school in the "List-View" on the right (See Figure 2-2)

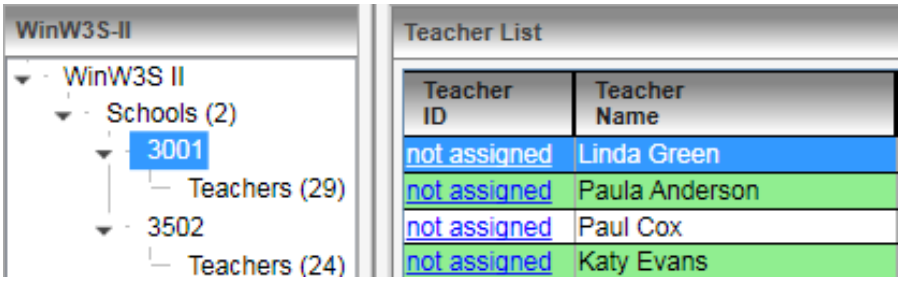


Figure 2-2: WinW3S Tree-View

- **List-View**
  The main window consists of the List-View displaying either school or teacher level information. The information shown depends on the Tree-View node currently selected, as well as on the school sampling status. The colour of the List-View indicates which stage of data entry you are on – the list has a green/white background before teacher sampling and a blue/white background after teacher sampling.

- **Status Area**
  This area displays the current completion status of the data for the current selection of school or teacher. Only when all data is completed can the database be exported to the IEA DPC.

- **Status Bar**
  This area displays the location of the database on your computer system.

2.5 Keyboard shortcuts

15. The following keys act as shortcuts in the WinW3S-II software:

16. Where you see numbers listed next to the categories on drop-down lists, for example, "1 – Online" or "2 – Paper" for the Teacher Questionnaire Mode, you can use the number keys "1", "2", "3" … "9" to select the appropriate category without using the mouse.

17. The [TAB] and [SHIFT]+[TAB] keys can be used to navigate between different fields in the School and Teacher Editors, and within the List-Views.

18. In the School and Teacher Editors, the following keys are available for navigation:

- [F2]-key moves to the first record;
- [F3]-key moves to the previous record;
- [F4]-key moves to the next record;
- [F5]-key moves to the last record;
- [F6]-key closes the editor.

19. Furthermore, you can add or delete records using the Plus (+) or Minus (-) keys (also available in the navigation bar in each of the editors). These keys can also be used to select/unselect any checkboxes in the Editors or List-Views.

20. The [ENTER] key confirms several actions in WinW3S as an alternative to pressing OK buttons *etc*.

2.6 WinW3S folder structure

21. WinW3S will create a database per ISCED Level/TALIS-PISA link option taken. The each database will have a corresponding folder, within which all files for that database are contained. For instance, an ISCED Level 1 and an ISCED Level 2 database are created for the country "Elbonia". Given the default locations are applied you would have two folders created, thus:

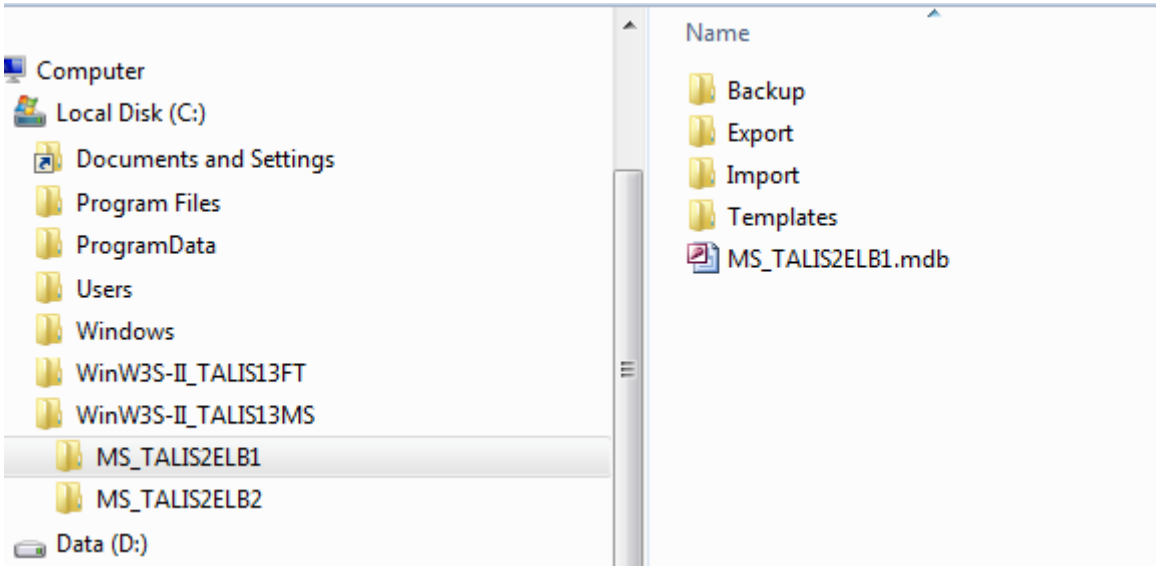


Figure 2-3: WinW3S data folders

22. You can see that the name of the folder includes the 3-letter ISO code for the country followed by a number (1, 2, or 3 for the respective ISCED levels; 8 represents the PISA-TALIS link).

23. Under each folder you will see the Access file that is the actual WinW3S database, along with four other folders. These are described below:

- **Backup** is the folder that is used to store backups of the database, either by explicitly clicking the **Backup** button in the **File** menu (use Restore to reload these), or by closing the WinW3S program.

- **Export** – this folder is used to store any output from the program, such as listing/tracking forms and labels, as well as the output from the Export to Excel (see 2.15.3) and Inconsistency Check (see 2.15.4) functions. It also has a subfolder ('WinW3S') which is only used for the Export database.

- **Import** – this folder contains five subfolders:

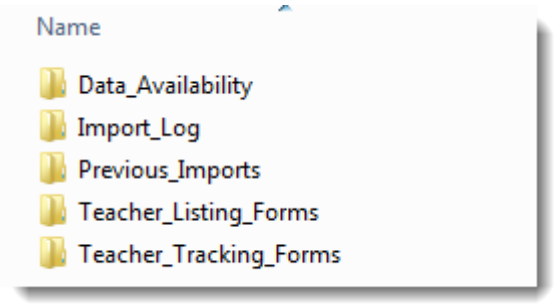


Figure 2-4: WinW3S import folders

The Import Log folder will store the log for any import of data (e.g. Listing Forms) in Excel format. The folders 'Data_Availability', 'Teacher_Listing_Forms' and 'Teacher_Tracking_Forms' are empty by default. These are the suggested locations for storing the respective Excel files prior to import into WinW3S. Please note that after successful import these files are moved, not copied to the 'Previous_Imports' folder.

New

Please note that the subfolder 'Data_Availability' replaces the previous 'Online_Participation', as it should be used for the import of data availability data from Excel sheets produced by both the OSS and the DME systems.

- **Templates** – will contain a subfolder per language selected. Within this you will see all the labels and forms that are available to be adapted for this particular language and ISCED level.

2.7 Setting up your database

24. Unless specified otherwise, the following description, including screenshots, follows the example of a 'core' ISCED Level 2 WinW3S database. However, there is very little functional difference between this and databases for other international options. Please note though, that if you are surveying more than just the ISCED Level 2 population, then you will be required to repeat the process to create a separate database for each additional option chosen.

2.7.1 Creating a database

25. To start the within-school sampling process, you first need to create a new database. To do so, please choose **New** from the **File** menu. The program will open the **New Database Creation** wizard:

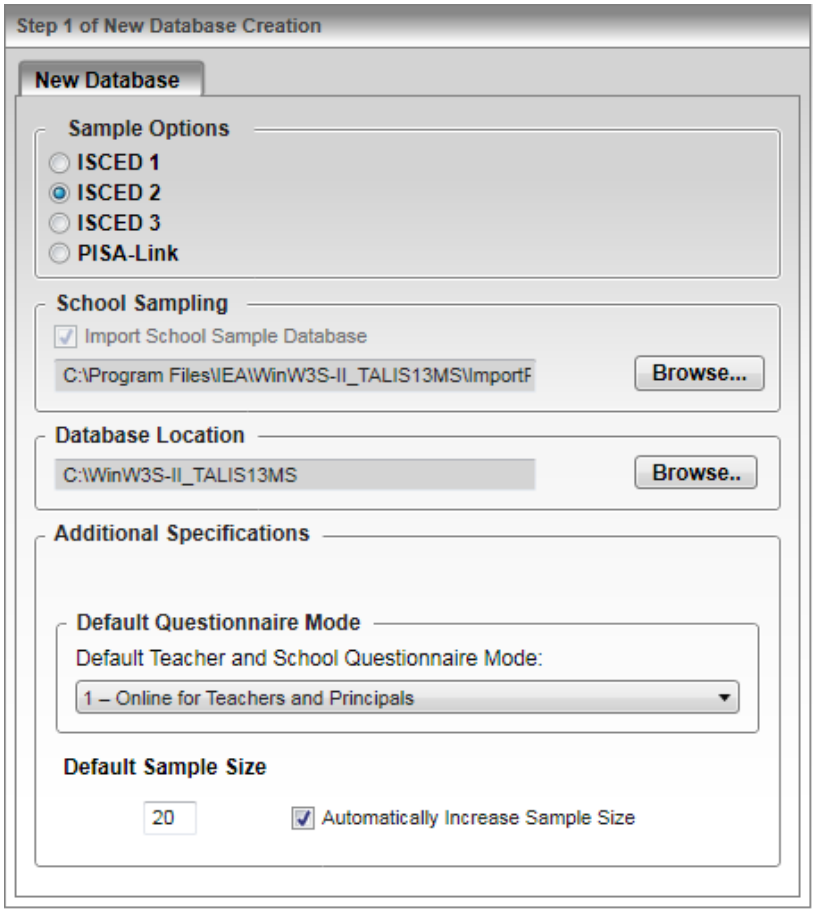


Figure 2-5: WinW3S New Database Creation – Step 1

26. The type of database is selected in the first step of database creation under **Sample Options** – only one option can be selected per database.

27. Secondly, you need to select the location of the School Sample Database (SSD) provided by Statistics Canada. This can be defined in the option **Import School Sample Database**.

Please note!

The program comes with a set of example SSDs in the default location, do NOT import any of the example databases provided with the program when creating your real databases; these only exist in order that you may train and familiarise yourselves with the WinW3S program

28. Now you must define the **Database Location** where you want to save your database file. You can either confirm the path suggested by the program, which is '*C:\WinW3S-II_TALIS13MS'* or use the '**…**' button to select another directory.

29. The next step is to define the "Additional Specifications":

- The **Default Data Collection Mode** box allows you to decide whether the questionnaire mode for both principals and teacher in ALL participating schools should be either "paper" or "online" by default.

- Next, choose the default number of teachers you want to sample if you plan to increase the number from the international default of 20 teachers per ISCED level per school. The number you provided in **Default Sample Size** will be inherited by all schools in this WinW3S database, but may be altered on a school-by-school basis later. The minimum allowed sample size (usually 20) is defined by Statistics Canada in the SSD, the maximum number of teachers that can be sampled is 99, due to the restriction of 2 digits per school for all teacher IDs.

Please Note!

To change the questionnaire mode defaults for individual schools later on, you can edit the Questionnaire Mode fields in the School Editor or alter the value for Teacher Questionnaires in the School List-View. Individual teachers can have their mode set in the Teacher Editor or List-View.

30. Once you have completed all fields required, click the **Next** button to continue.

31. Now the **Step 2 of New Database Creation: Define Languages** sub-window will open. Select the language(s) of test from the drop-down menu in the **Language Name** column as shown in the next picture. You can add as many languages as necessary by clicking on the **Add** button. If you do not find your language in the drop-down menu, please contact the IEA DPC for assistance. Once selected, the **Language Label** is editable, to translate it for displaying on instrument labels later on.

32. Please note that you also can add further languages later on from the **Tools** menu of the **WinW3S Main View window** (see section 2.15.1).

Figure 2-6: WinW3S New Database Creation – Define Languages

33. When ready, click the **Next** button at the top of the window (in the ribbon) to finalise the new database initialisation process.

34. Now you have created a database, you should select **Open** from the **File** menu next time you wish to open it. A list-box displays all existing databases on the computer. The **Browse…** button allows you to open databases which have been created on a different computer.

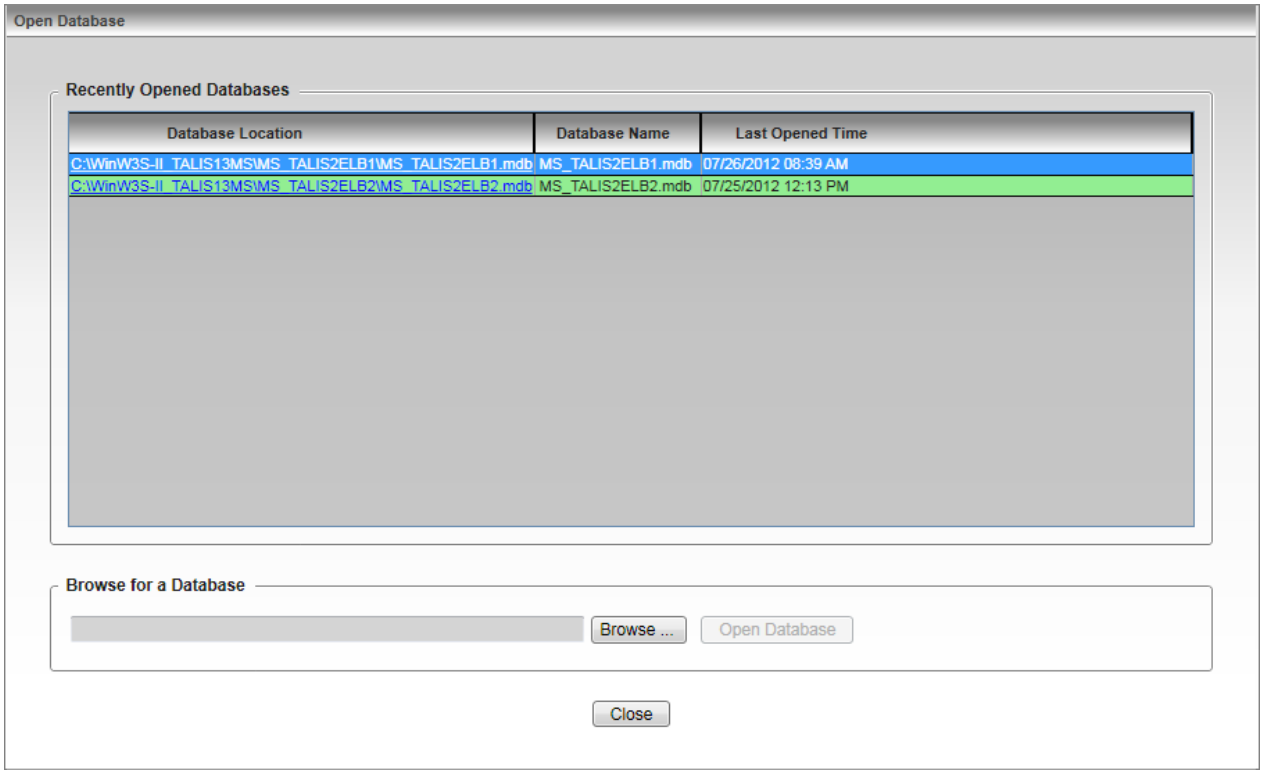


Figure 2-7: Opening a WinW3S database

2.7.2 Selecting and excluding schools

35. To record school participation, go to the **Schools** menu of the WinW3S main window and select the **Participation** option. The **Define School Participation Status** sub-window, listing the sampled schools along with their replacement schools, will open as shown in the next picture:

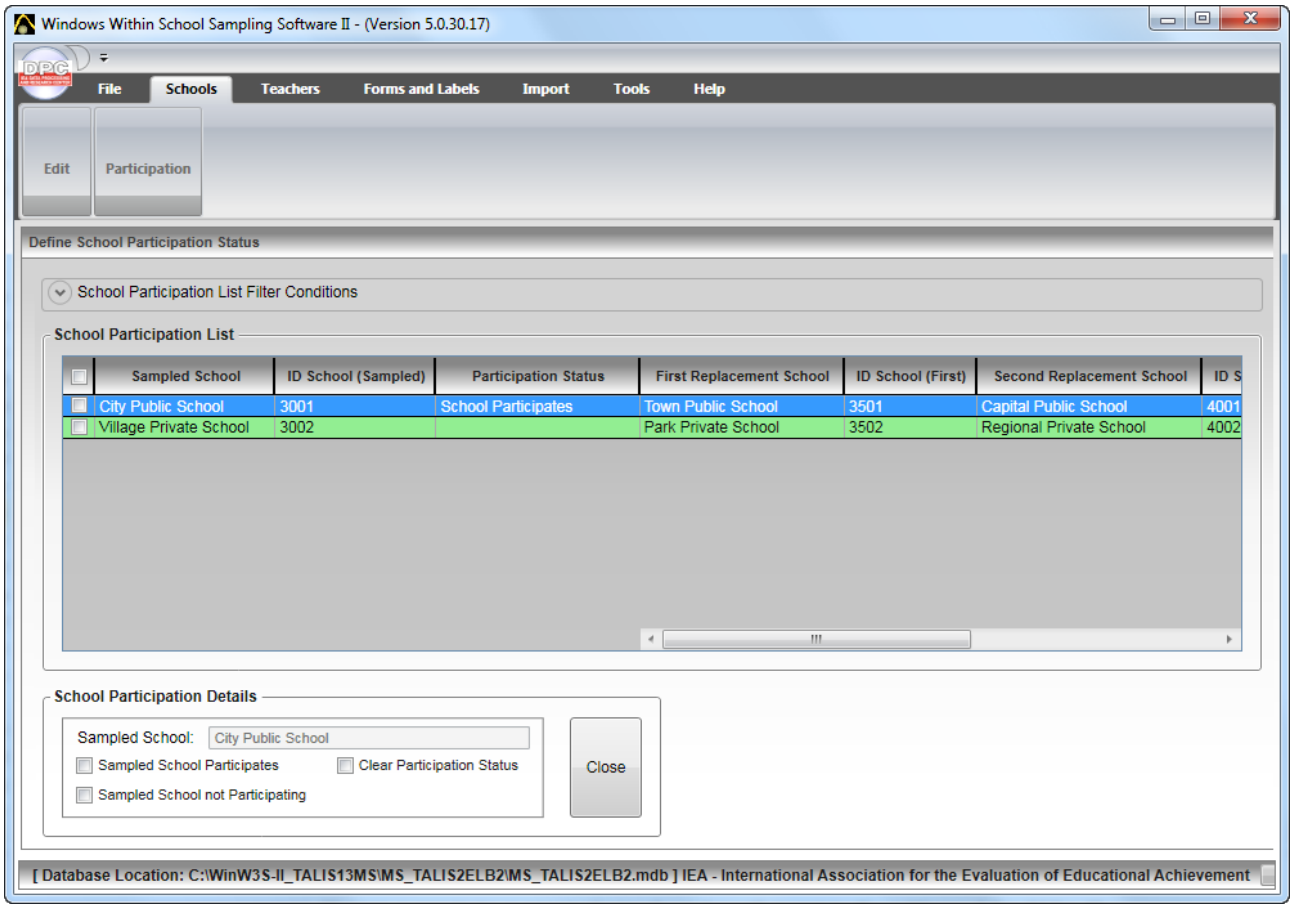


Figure 2-8: Selecting participating schools

36. If a sampled school agrees to participate, check the **Sampled School Participates** box in the **School Participation Details** section and move on to the next school. If a sampled school will not participate, check the **Sampled School not Participating** box in the **School Participation Details** section, then select the reason for non-participation of the sampled school from the drop-down menu:

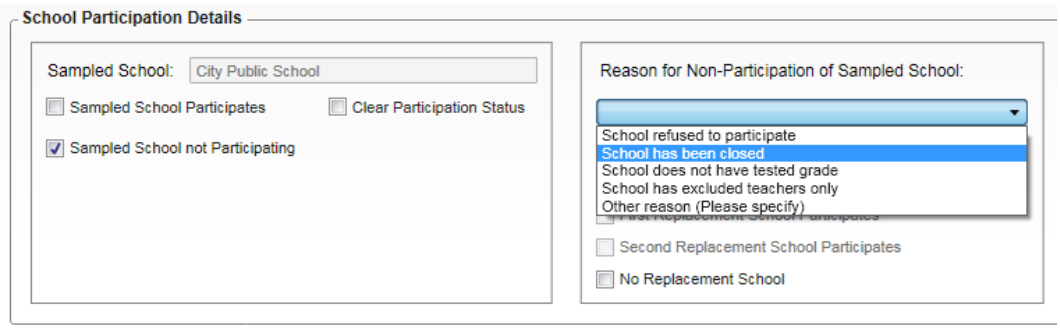


Figure 2-9: WinW3S – Non-participation options

37. If, and <u>only</u> if, the reason for non-participation is due to refusal, then the **First Replacement School Participates** option should be chosen (a second replacement school will also be available in

the Main Study). If you are in any doubt about the correct reason to select, please contact Statistics Canada and the IEA DPC.

38. Click the **Close** button to exit the **Define School Participation Status** window. Your changes will be saved automatically.

New

39. You may also select multiple schools as participating by using the new checkbox column on the left of the grid. To use this, select any number of schools that you know are participating, either by clicking on the respective checkbox, or by double-clicking anywhere else on the row, and then click the **Sampled School Participates** box. Note that the checkbox column will clear automatically once the statuses have been updated.

The same method may be used with the new **Clear Participation Status** box, but not with the **Sampled School not Participating** option, due to the added complexity of the accompanying reason for non-participation and replacement school selections.

40. You can access the **Define School Participation Status** window at any time and complete or update the participation information. Participation status of all the sampled schools must be completed before you submit your data.

2.7.3 Main Study school ID scheme

41. The Main Study ID scheme is shown below:

Table 2-1: TALIS Main Study ID scheme

1001-1499		original
1501-1999		1st replacement
2001-2499		2nd replacement
2501-2999	ISCED 1	National schools
3001-3499		original
3501-3999		1st replacement
4001-4499		2nd replacement
4501-4999	ISCED 2	National schools
5001-5499		original
5501-5999		1st replacement
6001-6499		2nd replacement
6501-6999	ISCED 3	National schools
7001-7499		original
7501-7999		1st replacement
8001-8499		2nd replacement
8501-8999	PISA	National schools

42. These ID numbers are provided with the School Sample Database, with the exception of any National schools – their IDs are allocated in order of their entry into the database.

2.8 Preparing listing forms and entering data – before-survey administration

43. Teacher Listing Forms will be used for School Coordinators to list the eligible teachers in the their schools and provide details about the teachers, such as the teacher names, gender and birth information as well as the teachers' main subject domains.

44. In TALIS 2013, it is possible to send Teacher Listing Forms to schools either in paper format, or as electronic forms in Excel format via email or other electronic transfer mechanism. Apart from the benefit in terms of communication with School Coordinators, it is also possible to import electronic listing forms directly into WinW3S, saving time and eradicating data entry errors. The following sub-sections will treat the use of paper and electronic forms as analogous – where there is a difference in their application, this will be explained.

2.8.1 Two possible points in time to create teacher listing forms

45. In TALIS, you have two distinct ways to create and handle Teacher Listing Forms:

- **Procedure 1: Create Teacher Listing Forms <u>before</u> you have entered the exact number of in-scope teachers for a school.**
  In this case, there is no need to request the number of teachers before creating the Teacher Listing Form, but the disadvantage is that schools may have to make copies of the Teacher Listing Form if the number of eligible teachers exceeds the number of rows on a single form. This is not a problem for electronic forms, which can simply be expanded.

- **Procedure 2 (Default): Create Teacher Listing Forms <u>after</u> you have entered the exact number of in-scope teachers in the School Editor and you have created the teacher records**.
  In this case, a sufficient number of Teacher Listing Forms will be created so that all in-scope teachers can be listed and schools will not have to make additional copies. If you adopt procedure 2, Teacher Listing Forms should be produced and sent to the school after creating the corresponding blank teacher records (see Teacher Creation 2.8.5).

2.8.2 Creating teacher listing forms

46. To prepare the Teacher Listing Forms, choose the menu option **Forms and Labels**, followed by the sub-option **Create Forms**. The following window appears:

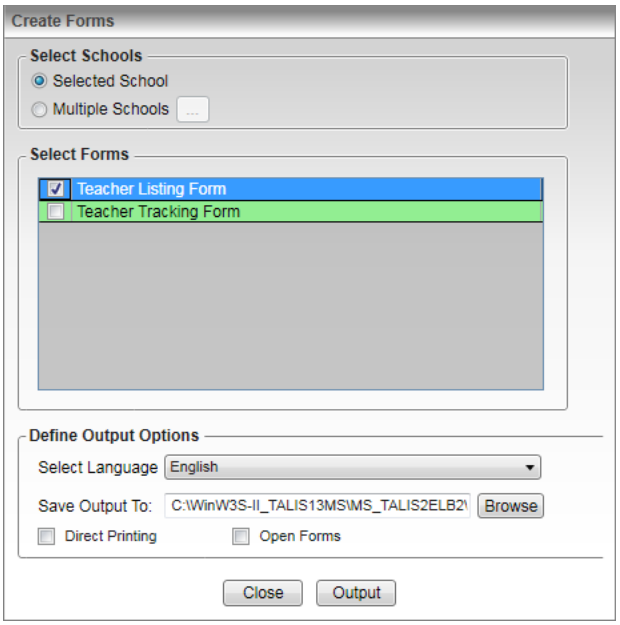


Figure 2-10: Create Forms window

47. The **Create Forms** window consists of three sections. In the **Select Schools** section you can create forms for the school that is currently selected in the WinW3S list or tree-view. Alternatively, you can choose to create forms for multiple schools at a time. A click on the '**…**' button next to **Multiple Schools**, opens the **List of Schools** sub-window. All schools that were previously defined as participating are present in this window and by default, all are selected. In the first column you

can manually select or deselect individual schools by checking or un-checking their corresponding check-boxes, or you can press the **Select All** or **Deselect All** buttons to select or deselect all schools in the same area. At least one school must be selected before you can exit the sub-window using the **Done** button.

48. The type of forms to be created can be selected in the **Select Forms** section. You can select one or multiple types at a time by checking the corresponding checkboxes.

Please Note!

Teacher Tracking Forms can only be created after teacher sampling has been performed for the corresponding school(s).

Teacher Listing Forms can be created at any time after the corresponding schools have been set as participating in the **Define School Participation Status** window**.**

49. Before you create forms, you must select the language of the forms as well as the location where they should be saved. These are set in the **Define Output Options** section of the **Create Forms** window. First of all, select one of the languages from the dropdown list. Any of the languages that were previously defined for the database can be selected here. If you click on the **Browse** button you can define the location where the forms and labels should be saved or alternatively keep the default location: *'<database location>\Export\'*.

Please Note!

The length of the path to save the forms **must not exceed 220 characters,** or forms cannot be created.

50. In the **Define Output Options** section, there are a couple of options selected by checkbox: **Direct Printing** and **Open Forms**. If the **Direct Printing** checkbox is checked, forms and labels will be sent directly to your default printer. If the **Open Forms** checkbox is checked, forms will be saved and opened in MS Excel™ as they are created. If neither of these options is checked, the program will just save the chosen forms and labels to the location that was defined in the **Save Output To** field.

51. The program creates and saves the selected forms at the time you press the **Output** button at the bottom of the **Create Forms** window. This process may take over a minute, depending on the number of forms you want to create at a time. The program will create forms for the selected language based on the templates found under: *'<database location>\Templates\<language>\'*. .

Please Note!

For information on how to translate the included English Teacher Listing Forms and Teacher Tracking Forms, please refer to section 2.13**.**

2.8.3 Completing school level information

52. Before you can start editing school information, at least one school has to be selected for participation in the **Define School Participation Status** sub-window (refer to Section 2.7.2). To complete the school information use the tree-view on the left part of the main window. A click on **Schools** or on one of the School IDs opens a list of the school definitions in the right part of the main window.

53. You can either choose **Edit** from the **Schools** menu or click on one of the School IDs in the list to open the **School Editor**. Alternatively, the editor can also be opened by a right mouse click on any of the rows in the list and selecting **Edit School** from there.

54. You can use the navigation bar at the top of the School Editor window or use one of the defined F[n] function keys to select a particular school (refer to Section 2.5 for more information)

55. The below image shows the School Editor for a school that has been imported from the SSD:

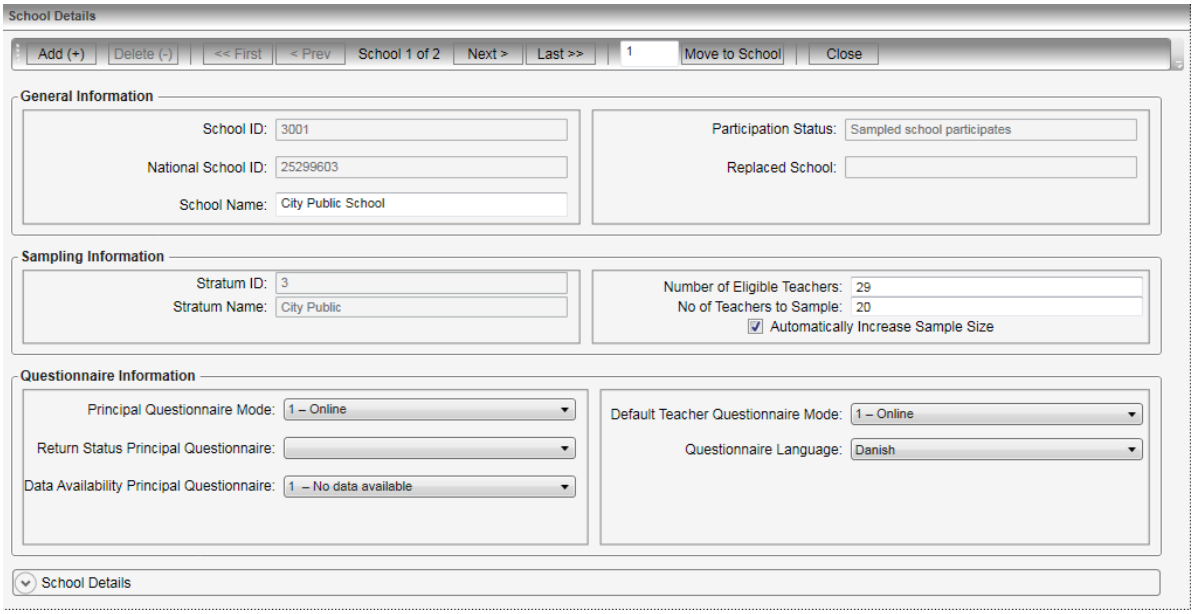


Figure 2-11: School Editor

Please Note!

For completing the data on school level, completed Teacher Listing Forms are required. Those have to be returned completed from the School Coordinators at the selected schools. Information on the number of eligible teachers has to be taken from these forms.

2.8.4 The fields in the School Editor

56. Much school-level information will have already been imported from the Statistics Canada school sampling database, and thus some fields in the School Editor cannot be edited. Some further fields get defined during the setup of the WinW3S database: these, and all other informational fields, are editable by the user in the School Editor. Please see the following table (Table 2-2) for full details:

Table 2-2: Fields in the School Editor

Field Name	Description	Codes	Source	Editable
School ID	Unique School ID as defined by Statistics Canada		Imported from School Sample Database	No
National School ID	National School ID if applicable in your country		Imported from School Sample Database	Yes for national schools only
School Name	School Name		Imported from School Sample Database	Yes
Participation Status	School Participation Status	Sample School Participated First Replacement School Second Replacement School National School	Defined in School Participation window	No
Replaced School	ID of Replaced School		Imported from School Sample Database	No
Stratum ID	Stratum ID	<country specific>	Imported from School Sample Database	Yes for national schools only
Stratum Name	Stratum Name		Imported from School Sample Database	Yes for national schools only
Number of Eligible Teachers	The number of teachers within scope for the ISCED level of the WinW3S database.		Imported from School Sample Database [if provided by country to Statistics Canada]	Yes* *until Teacher sampling
Number of Teachers to Sample	The number of Teachers to be sampled in this school		As defined during new database creation (default 20)	Yes* *until Teacher sampling
Principal Questionnaire Mode	Mode of the questionnaire that will be administered to the school principal	1 – Online 2 – Paper	As defined during new database creation	Yes
Return Status Principal Questionnaire	Return Status Principal Questionnaire	1 – Returned 2 – Not returned		Yes
Data Availability Principal Questionnaire	Data Availability Principal Questionnaire	1 – No data available 2 – Online data available 3 – Paper data available 4 – Both online and paper data available		Yes
Default Teacher Questionnaire Mode	Default mode of the questionnaire that will be administered to the teachers of this school	1 – Online 2 – Paper	As defined during new database creation	Yes
Questionnaire Language	The Language to be used on Questionnaires for this School			Yes
School Coordinator Name	Name of School Coordinator			Yes
School Coordinator Address 1	Address of School Coordinator			Yes
School Coordinator Address 2	Address of School Coordinator			Yes

Field Name	Description	Codes	Source	Editable
School Coordinator Address3	Address of School Coordinator			Yes
School Coordinator Office Phone	Office Phone of School Coordinator			Yes
School Coordinator Mobile Phone	Mobile Phone of School Coordinator			Yes
School Coordinator Email Address	Email Address of School Coordinator			Yes
School Coordinator Comment	Comments re School Coordinator			Yes
Comment	General comments or other school information			Yes

57. By closing the School Editor, all entered information will be automatically saved. Note that later on, after sampling teachers, the 'Number of Eligible Teachers' and 'Number of Teachers to Sample' fields will be uneditable.

58. It is also possible to edit any of the (editable) fields of the School Editor, in the corresponding List-View. This tends to be quicker to use, but has the disadvantage that not all information for a school will be visible due to the width of the row of data. The information given in the table above applies equally to this method of data entry.

Please Note!

Repeat the procedure for each participating school.

2.8.5 Creating teachers

59. As soon as the school information has been entered, the teacher records can be created for the corresponding school. Choose **Create Teachers** from the **Teacher** menu. This will bring up a dialogue listing all schools ready to have teachers created. The teacher records will be created automatically and if you click on the Teachers node that is now displayed under the selected school in the tree-view, you will find all the teacher records listed in the list-view:

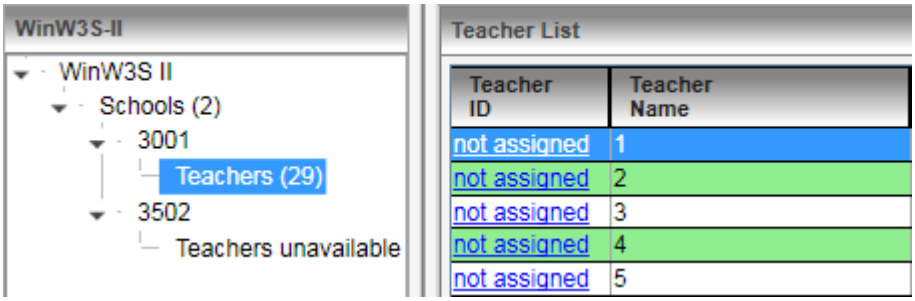


Figure 2-12: List-View - after teacher creation

60. At this stage, the teacher IDs are not yet assigned. The unique teacher IDs will be assigned only after teachers have been sampled. To be able to sample teachers it is necessary to enter the basic teacher information first.

2.8.6 Entering teacher level information

61. To complete the teacher information in the Teacher Editor, you can either choose **Edit** from the **Teachers** menu or open it with a right mouse click on any of the rows in the list and selecting **Edit**.

62. You can use the navigation bar at the top on each of the Teachers Editor or use one of the defined F[n] keys to activate a particular teacher (refer to Section 2.5 for more information about the navigation options).

63. The figure below shows the **Teacher Editor**.

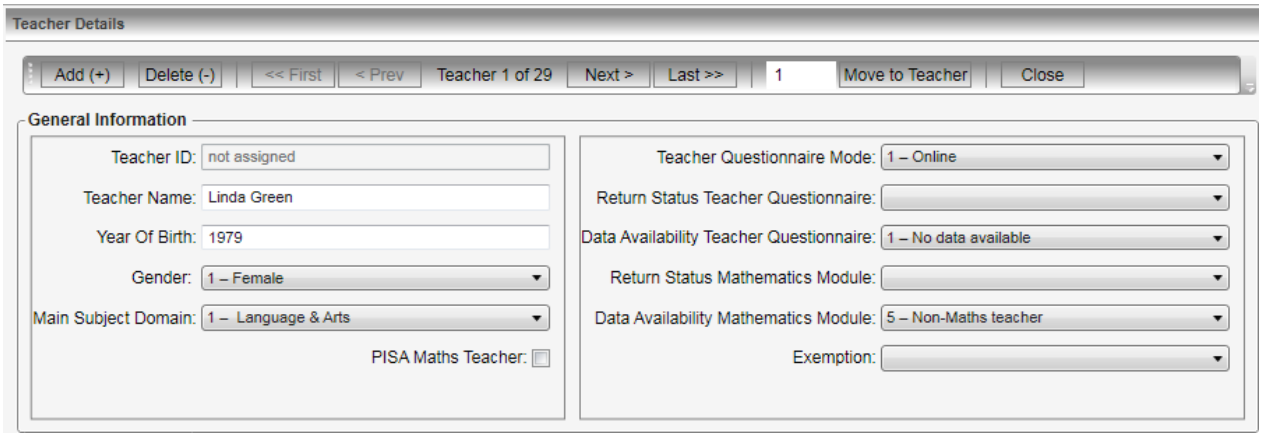


Figure 2-13: Teacher Editor

64. Table 2-3 provides an overview of the fields in the **Teacher Editor,** together with a description of the fields and their code values if applicable. The table also includes information about the data source and whether the field is editable or not.

Table 2-3: Fields in the Teacher Editor

Field Name	Description	Codes	Source	Editable
Teacher ID	Teacher ID		Created by WinW3S	No
Teacher Name	Teacher Name		Teacher Listing Form;	Yes
Year of Birth	Four-digit birth year of the teacher	1920 to 2000 9999 – missing;	Teacher Listing Form; Teacher Tracking Form	Yes
Gender	Gender of the teacher	1 – Female; 2 – Male; 9 – Missing	Teacher Listing Form; Teacher Tracking Form	Yes
Main Subject Domain	The main subject area taught by the teacher at the defined ISCED Level (or to 15 Year-olds for PISA-Link)	1 – Language & Arts; 2 – Human Sciences; 3 – Maths & Science; 4 – Other; 9 – Not Specified	Teacher Listing Form; Teacher Tracking Form	Yes
PISA Maths Teacher	PISA-Link only: Teacher who teaches mathematics to 15 Year-olds	X = True	Teacher Listing Form;	Yes
Teacher Questionnaire Mode	Mode of the questionnaire that will be administered to the teacher	1 – Online 2 – Paper	Defined at setup or in the field Default Teacher Questionnaire Mode of the School Editor; Teacher Tracking Form	Yes
Return Status Teacher Questionnaire	Return Status of the Teacher Questionnaire	1 – Returned (paper) 2 – Returned (online) 3 – Not Returned 4 – Left School Permanently 5 – Should have been out-of-scope 6 – Should have been excluded	Teacher Tracking Form;	Yes
Data Availability Teacher Questionnaire	Data Availability of the Teacher Questionnaire	1 – No data available 2 – Online data available 3 – Paper data available 4 – Both online and paper data available	Completed by NPM ; Import from Online SurveySystem ; Import from DME system	Yes
Return Status Mathematics Module	PISA-Link only: Return Status of the Mathematics Module	1 – Returned (paper) 2 – Returned (online) 3 – Not Returned 4 – Left School Permanently 5 – Should have been out-of-scope 6 – Should have been excluded	Teacher Tracking Form;	Yes
Data Availability Mathematics Module	PISA-Link only: Return Status of the Mathematics Module	1 – No data available 2 – Online data available 3 – Paper data available 4 – Both online and paper data available 5 – Non-Mathematics Teacher	Completed by NPM; Import from Online SurveySystem ; Import from DME system	Yes
Exemption	Exemption Status	1 – Teacher is also the school principal 2 – Teacher took part in the TALIS 2013 FT	Teacher Listing Form;	Yes

65. As with the School Editor, it is also possible to edit any of the (editable) fields of the Teacher Editor, in the corresponding List-View. The information given in the table above applies equally to this method of data entry.

Please Note!

Repeat the procedure for each teacher in the participating school.

2.9 Import of teacher listing forms from MS-Excel

66. If School Coordinators have been sent, and have completed, electronic versions of the *Teacher Listing Forms*, the information from them may be conveniently imported, saving time and preventing errors in transcription.

67. Though the import of data received from schools via electronic *Teacher Listing Forms* is the ISC's recommended method, it is also possible to import teacher information for all schools in a single Excel list; such bulk importation of data is of particular interest to those countries using Ministry lists. For details of this new feature, please see the section 2.10 below.

68. The import of *Teacher Listing Forms* has the following conditions and restrictions:

- WinW3S allows you to import data from *Teacher Listing Forms* <u>before</u> Teacher sampling only.
- The import is restricted to the fields on the *Teacher Listing Form*, namely the Teacher Name (1), Exemption Indicator (3), Year of Birth (4), Gender (5) and Main Subject Domain (6). For TALIS-PISA Link databases, the Mathematics Teacher indicator (7) would also be imported.
- The import will abort if the import file's structure does not conform to this template, i.e. the worksheet has been altered in such a way that it has an inconsistent structure or data (*e.g.*, a deleted column *etc*.). In other words, the import must always be able to find the information in the following Excel columns: A: Name of Teacher, D: Exemption, E: Year of Birth, F: Gender, G: Main Subject Domain and TALIS-PISA Link H: Mathematics Teacher). However, you may translate or rename the text in the column headers.
- The import will also abort completely if out of range or missing data are found (*e.g.*, Gender = 3). Note that the year of birth is expected in 4-digit format, *e.g.* 1971.
- The Excel import files are school-based, so for each school you would like to import you will need one Excel file named "Teacher_Listing_Form_TALIS13_ISCED<x>_MS_<School ID>.xls" ("Teacher_Listing_Form_TALIS13_PISA_MS_<School ID>.xls for TALIS-PISA Link). There is a default location for storing these files under: *'<database location>\Import\Teacher_Listing_Forms'*.

69. Follow the steps below to import data for schools (the example school here is 3001 for an ISCED Level 2 database).

- Copy the completed MS Excel file "Teacher_Listing_Form_TALIS13_ISCED2MS_3001.xls" to your database's import sub-folder (default: '*C:\WinW3S-II_TALIS13Ms\MS_TALIS2CCCN\ Import\Teacher_Listing_Forms'*).
- Select the **Import** then **Import Teacher Listing Forms** buttons. The following window should appear:

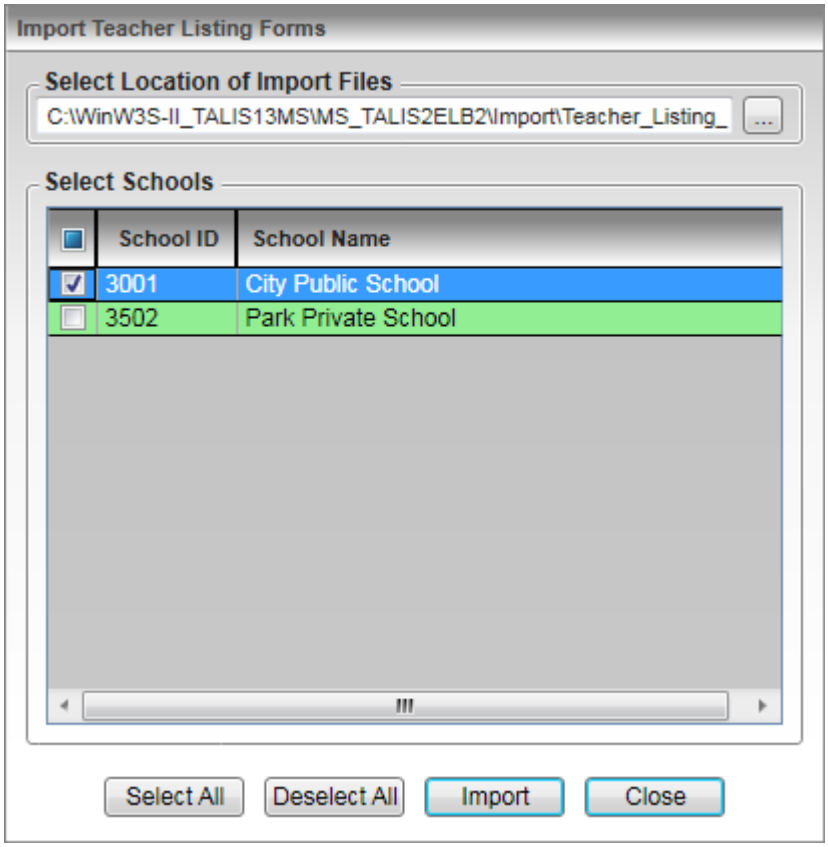


Figure 2-14: Import of Listing Forms

- If the files for further participating schools had been copied to the same folder, these would now be also available for import. The '**…**' button allows you to browse for folders other than this default.

- Once the desired schools have been selected with a check mark next to the School ID then the **Import** button in the window may be clicked to run the import. A log file will be generated and will display either a success message or the reason that a file could not be imported:

```
Teacher Listing Form TALIS13 ISCED2 MS 3001: (on 31.07.2012 10:06:36)

Teacher data for school 3001 has successfully been imported.
```

Figure 2-15 : Successful Import of Listing Form

- Following a successful import, the imported files will be moved from their current location to the *'<database location>\Import\Previous Imports'*.

2.10 Importing teacher data for multiple schools

New

In the MS setup of WinW3S, we have provided an alternative way to enter date into WinW3S. This is primarily aimed at those countries using Ministry lists of teachers, or convenience samples, but has been designed to be useful in other circumstances, depending on whether a schools has already been sampled or not. It may be that your schools exist in a mixed sampled/non-sampled state. In this case the logic is applied as below on a school-by-school basis.

2.10.1 Importing teachers (before sampling)

70. In this case we assume that a database has been created, and the relevant schools marked as participating, but no teachers have yet been created. It is possible to add teacher data to an Excel file

(the template for which is stored under C:\Program Files\IEA\WinW3S-II_TALIS13MS\bin\ExcelTemplates\TALIS 2013 MS_Import_Teacher_Data.xls), making sure that each line begins with a valid (participating) school ID:

	A	B	C	D	E	F	G	H
1	IDSCHOOL	IDTEACH	TeacherName	Exemption	BIRTHY	SEX	SubjDomain	QuestModeTeache
2	3001		Linda Green		1979	1	1	
3	3001		Paula Anderson		1986	1	2	
4	3001		Paul Cox		1987	2	1	
5	3001		Katy Evans		1968	1	4	
6	3001		Michael King		1972	2	1	
7	3001		Claire Cartwrigh		1969	1	1	
8	3001		Alan Davis		1967	2	1	
9	3001		James Wilkinso		1957	2	3	

Figure 2-16 : The Import of Multiple Teacher Data from Excel

71. The data filled should correspond to the data that could be completed on the *Teacher Listing Form*, and any other columns omitted. For instance, at listing, there is no IDTEACH existing, so this should be left out. So, you should only complete the columns IDSCHOOL, TeacherName, BIRTHY, SEX, and SubjDomain, using exactly the codes and criteria as for the *Teacher Listing Form.* Any data inserted into other columns will be ignored.

72. To import tis data, select **Import Teachers From Excel** from the **Import** menu, and browse to your saved Excel file. Click on the **Import** button to perform the import.

73. Note that any further import including teachers for a certain school will delete existing teacher information for that school, so if using this technique, append teachers to a full list.

2.10.2 Importing teachers (after sampling)

74. After sampling, the Excel sheet may be used to update information, in a similar manner to importing *Teacher Tracking Forms*. The Excel sheet may have its use in for example, updating Return Statuses for multiple teachers in multiple schools. After sampling, data is validated against IDSCHOOL and IDTEACH in the form, and only non-blank values are updated in WinW3S, so that a single column can be simply updated. If a teacher/school ID is not valid, the row will not be imported. No teacher information can be deleted using this method, as blanks are always ignored.

75. In contrast to *before* sampling, now only values that may be imported from a *Teacher Tracking Form* are considered. So, for example, as the column 'Exemption' is not on this form, it will be ignored when importing from this Excel sheet, whereas the Data Availability and Return Status columns are now considered.

76. The action to run the import is exactly as above.

2.11 Sampling teachers and preparing tracking forms and labels

2.11.1 Sampling teachers

77. To sample teachers, first select a school in the Tree-View or School List-View and then select the option **Sample Teachers** from the **Teachers** menu. A selection box will appear displaying all schools ready to be sampled, from which you may make a selection. On clicking **Sample** the program will select the number of teachers that was specified before on school level.

78. If the number of eligible teachers in the ISCED level (or number of non-mathematics Teachers of 15-year-olds for the PISA-Link database) in the school is greater than 20 but less or equal to 30, and the option to increase this number automatically was selected during setup (see section 2.7.1) then the software will display the following message:

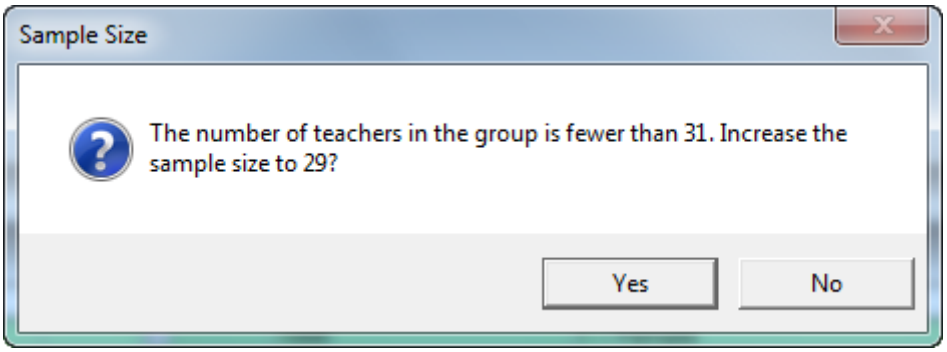


Figure 2-17: Automatic increase of sample size

79. If multiple schools are selected, this message will not appear and the program will simply follow the settings of 'Automatically Increase Sample Size' that exist for each school.

Please Note!

The default within-school sample size of 20 teachers in the ISCED level must be considered as a minimal requirement, unless the sampled school has not enough eligible teachers. In this case the number of teachers to sample will be automatically adjusted to the available number during sampling. There is no need to define a lower value in the editor.

However, countries are allowed to increase the sample size and survey more teachers than specified in these minimal requirements ("over-sampling").

80. Based on experience, the IEA DPC and Statistics Canada strongly recommend you sample all eligible teachers (between 21 and 30) for reasons of convenience (for example, there is little point in sampling and surveying 20 out of 21 available teachers). Press the "Yes" button to increase the sample size to the maximum number of teacher available. Press the "No" button to decline this recommendation.

Please Note!

The decision to accept the recommendation lies with the NPM. However, Statistics Canada and the ISC request you make a consistent decision for all schools.

81. If the number of teachers to sample is greater than 30, the default number of teachers, usually 20, will be sampled.

82. The following dialogue will (only when a single school is selected) give you the teacher sample size before sampling (29 eligible teachers and the **Yes** button pressed in the example before to increase the sample size).

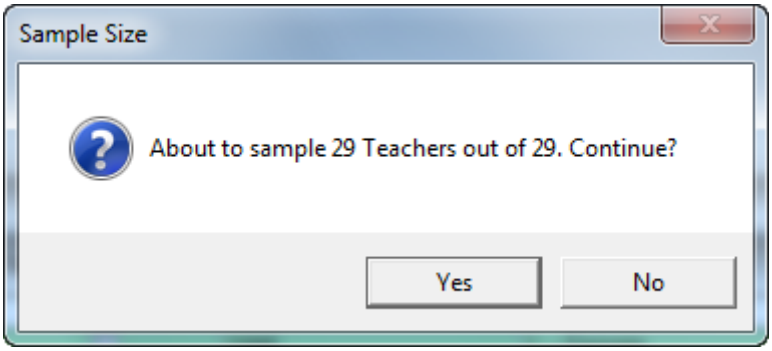


Figure 2-18: Confirmation of sample size

83. After sampling, the Teacher List-View will display only those teachers sampled, and turn from green/white to blue/white.

84. Note that it is possible to undo the sampling for a single school by use of the **Undo Sample Teachers** button in the Teachers menu. This is to be used only if incorrect teacher information has been added, and you are required to submit a reason for this action, which will be stored in the database.

Please Note!

Repeat the procedure for each participating school.

2.11.2 Preparing teacher tracking forms and labels

Please Note!

After the teacher sampling, *Teacher Tracking Forms* should be prepared and sent to the School Coordinators of the participating schools to accompany the survey materials (Questionnaires and/or Cover Letters).

85. After the teachers have been sampled, instruments can be prepared for survey administration in the sampled schools. For detailed instructions on how to do so, please refer to the *National Project Manager's Manual*. During this step, WinW3S assists you in printing *Teacher Tracking Forms* as well as all labels for the instruments. To create the tracking forms, choose menu option **Forms and Labels**, followed by the sub-option **Create Forms**. The procedures for preparing the *Teacher Tracking Forms* are identical to those of the *Teacher Listing Forms*. Please see section 2.8.2 above for details.

86. You also have to prepare labels for the survey instruments. Please attach them to the paper questionnaires or to the ODC cover letters that are sent to the participating schools.

87. The program can generate the following labels:

- **School Principal Labels**
  For the Principal Questionnaire label, the following information will be displayed: School Name, School ID, and Checksum.

- **Teacher Labels**
  For each Teacher Questionnaire a label containing the following information will be produced: Teacher Name, Teacher ID and Checksum. For TALIS-PISA link databases, a further item will appear (Mathematics), to indicate that a teacher is a mathematics teacher for 15-year-olds.

- **Mathematics Teacher Labels (TALIS-PISA link only)**
  These are not an additional option but rather are created along with the Teacher labels for any teachers marked as mathematics teachers, as a separate sheet or sheets. The following information will be displayed: Teacher Name, Teacher ID and Checksum. These labels are intended to be attached to the front of the Mathematics Teacher Module, even if bound together with the Teacher Questionnaire.

88. The procedures for preparing the labels are identical to those referring to the preparation of the *Teacher Listing Forms*. Please see section 2.8 for details. In preparing labels, make sure to select the correct format of the labels in the "Define Label Options" and "Define Output Options" sections.

89. For translating the forms, labels and the questionnaire mode texts, please refer to section 2.13.

2.12 Entering data – after-survey administration

90. When the administration is complete for a participating school, the participation information from the *Teacher Tracking Forms* has to be manually entered into WinW3S. Those forms will have been returned completed from the schools together with all survey instruments. The participation status can be set by using the import function, if teachers and principals participated online.

2.12.1 Entering teacher tracking information

Please Note!

For completing the data on teacher level after the survey is administered, completed *Teacher Tracking Forms* are needed. Those have to be returned completed by the *School Coordinators* in the selected schools. Information about the participation status of the teachers must come from the *Teacher Tracking Forms* and cross checked/verified against the available materials.

91. During survey administration, the *School Coordinator* is responsible for completing information on *Teacher Tracking Forms* and this information has to be entered into WinW3S at the teacher level or imported in the case of electronic (Excel-based) forms.

92. The following fields in the editor must be completed during this step:

- **Teacher Questionnaire Mode**
  This field is usually set to the default defined before project creation (see section 2.7.1). If one mode (paper or online) has been assigned to a teacher, but they requested a questionnaire in the other mode, then this information must be accurately entered in this field.

- **Return Status Teacher Questionnaire**
  This field is used to record the participation of each teacher during the survey, regardless of mode. The information to be entered into this field must be taken from the *Teacher Tracking Form* column (6) for paper questionnaires or from the monitor participation report for online questionnaires. For this field, the following categories are available:

  - 1 → returned (a non-empty paper questionnaire , was returned)
  - 2 → returned online (The teacher completed the questionnaire online)
  - 3 → not returned (the questionnaire was not distributed, not returned or empty)
  - 4 → teacher left school permanently (the teacher left the school between listing and start of administration; should only be applicable in very rare cases). In such cases where the absence is <u>temporary</u> for such reasons as maternity leave or sabbatical work, the teacher must be listed as "3"
  - 5 → teacher should have been out of scope (e.g.: It was realised that the teacher does not teach the appropriate ISCED Level)
  - 6 → teacher should have been exempted (either as a Principal, or having participated in the Field Trial)

New

New

Please note the new categories 5 and 6: in rare circumstances, a teacher may have become out-of-scope in the time between listing and administration. For example, they may no longer be teaching at the relevant ISCED level, or they were incorrectly listed as eligible during the listing process. They may also have been listed when they should have been exempted. It is important for your non-response statistics that such cases are recorded as appropriate, and so that correct weightings may be calculated.

- **Return Status Teacher Questionnaire (PISA-Link)**
  Note that for PISA-TALIS-Link databases, the **Return Status Teacher Questionnaire** is in column (7) of the Tracking Form, and that there is an additional column reserved for the recording of participation of Mathematics teachers in completing the Mathematics Module: column (8).
  The same codes as above apply.

- **Return Status Mathematics Module (PISA-Link)**
  Note that for PISA-TALIS-Link databases only, there is an additional field to mark the return status of the Mathematics Teacher Module. In the case that a certain teacher is not marked as a mathematics teacher on the Tracking Form, then School Coordinators will be instructed to leave these fields blank, but in WinW3S the code 6 should be used:
  - 1 → returned (a non-empty paper questionnaire , was returned)
  - 2 → returned online (The teacher completed the questionnaire online)
  - 3 → not returned (the questionnaire was not distributed, not returned or empty)
  - 4 → teacher left school permanently (the teacher left the school between listing and administration, should only be applicable in very rare cases) In such cases where the absence is temporary for such reasons as maternity leave or sabbatical work, the teacher must be listed as "3"
  - 5 → teacher should have been out of scope (e.g.: It was realised that the teacher does not teach the appropriate ISCED Level)
  - 6 → teacher should have been exempted (either as a Principal, or having participated in the Field Trial)

New

New

93. Note that it is no longer necessary to complete all Return Statuses to set a school to be 'Complete'. This is intended for countries doing ODC only, for whom the Return Statuses are largely irrelevant. However, it is **very important** that any Return Statuses of 4, 5 or 6 are reported!

Please Note!

For Teachers who responded online, use the "Participation Reports" from the monitor application to verify the information on the Teacher Tracking Form. Enter "2", if a teacher has participated online, "3" if he has not. Alternatively, use the import function to set the participation status automatically.

2.12.2 Entering principal tracking information

94. In a very similar manner to the Teacher Questionnaires, enter the return status of the Principal Questionnaire in the School Editor/List-View.

95. For paper questionnaires, the participation information for principals should be entered according to the presence of questionnaires at the National Centre. For online questionnaires, the participation information for principals should be entered according to the monitor participation reports.

96. For this field, the following categories are available:

- **1 → returned** (a non-empty questionnaire, either paper or online, was returned)
- **2 → not returned** (the questionnaire was not distributed, not returned or empty)

97. For the Principal Questionnaires, note that there is no option to automatically generate Tracking forms or import from Excel forms.

Please Note!

Repeat these steps for all participating schools.

2.12.3 Importing participation information from the SurveySystem Monitor

98. For schools and teachers completing their questionnaires online, the best way to assign the return statuses of the questionnaires is to import the participation information from the IEA SurveySystem. In the SurveySystem Monitor application, you will be able to export the return status for all schools and teachers to a Microsoft Excel™ formatted file. Correspondingly, WinW3S provides an option which allows for importing the participation status from this file.

99. In the Import menu, select the option **Import Online Participation Status** and enter or browse to the location of the Excel file in the following window:

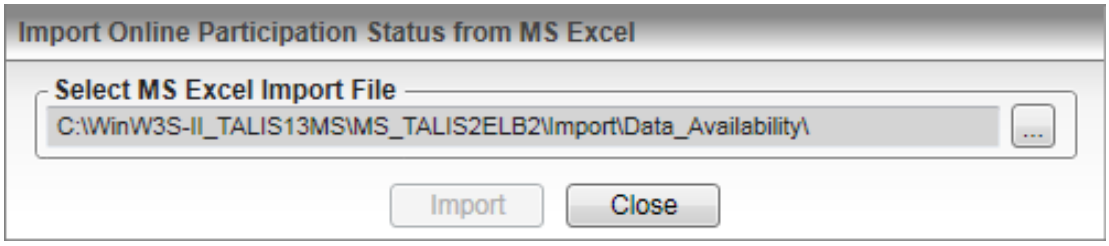


Figure 2-19: Import of online participation status

100. By clicking the **Import** button, the information on school and teacher participation will be automatically assigned and stored in the WinW3S database. Note that the Questionnaire Mode is not automatically updated at this point in order to retain information supplied by the School Coordinator.

Please Note!

The status will only be updated for those principals and teachers for which at least one valid value is available in the ODC system. You will still need to set the participation status manually for any "not returned" questionnaire. Note also that the Technical Standards require at least one Background Question to be answered and one further question from another part to be considered as valid. 'Participation' of a teacher will only be finally judged during data cleaning.

2.12.4 Importing participation information from the DME

New

101. In a similar manner to the import of OSS data, it is now possible to output an Excel™ report from DME which on import into WinW3S will update the Data Availability column for teachers or participating schools.

102. To start this import, from Import menu, select the option **Import DME Status** and enter or browse to the location of the Excel file in the following window:

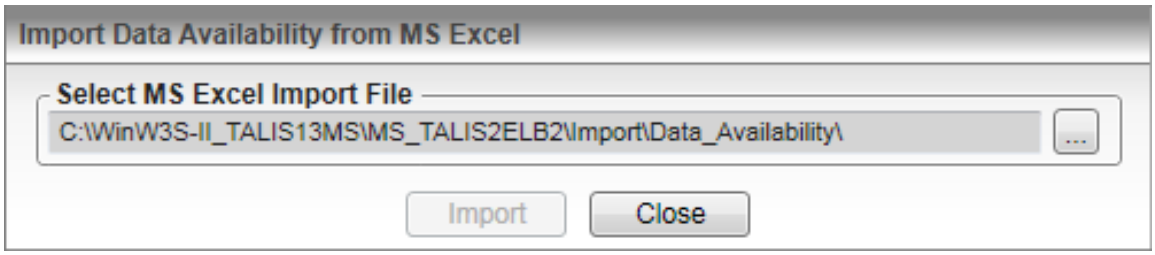


Figure 2-20 : Import of participation status from DME

103. On clicking **Import**, the information on school and teacher participation will be automatically assigned and stored in the WinW3S database. Note that the Questionnaire Mode is not automatically updated at this point in order to retain information supplied by the School Coordinator

2.12.5 Exporting final databases for the IEA DPC

104. As the final step after data entry in WinW3S, you must use the **Export** function from the **File** menu to produce a version for the IEA DPC with teacher and school names suppressed.

105. After finishing all parts of data entry in WinW3S, you should firstly confirm that there are no unexplained inconsistencies by generating an inconsistency report (see section 2.15.4). You should then prepare your database for export to the IEA DPC. Please note that the export function is only available under the condition that all necessary information has been entered completely. This includes the completion of participation statuses for all schools under the **Schools →Participation** menu. It is no longer necessary to complete all values of Return Status, although this is still encouraged.

106. If all teacher and principal participation information has been entered the status of each School in the Status Area will be shown as "Completed", otherwise, you will need to check the underlying data to find which information is missing. Furthermore, all schools must have either been marked as participating, or a reason given for lack of participation (see section 2.7.2).

107. By default, the export files are stored in the directory *<database location>\Export\WinW3S*. The following file naming convention is applied for the exported IEA DPC file:

- MSTALIS2CCCN.mdb [where CCC represents your 3 letter country code, and N is the ISCED level (1,2,3, or 8 for TALIS-PISA link)]).

Please Note!

In the export files all data will be made anonymous. No teacher names will be exported. Because of the data protection laws in Germany, the IEA DPC is not allowed to accept "non-anonymous" WinW3S databases from you, even where national laws permit it.

2.13 Translating forms and labels

108. WinW3S facilitates the translation of forms and labels from the default English into further languages. When a new WinW3S database is created, the program copies the corresponding templates to the database location folder, and moreover, the program creates a subfolder for each language that was selected in Step 2 (Define Languages) of the new database creation process (see section 2.7.1). For example, if you created a new WinW3S database and select English and

French in the Define Languages screen, WinW3S will copy the templates, for both forms and instrument labels, into the following folders:

- *'<database location>\Templates\English'* and
- *'<database location>\Templates\French'.*

Please Note!

If you follow the default procedure, the program will copy the related templates into a subfolder within the database directory as indicated above.

Please note that a folder with templates in the English language will automatically be created in the database directory, no matter which languages were selected in the **Define** Languages window. It's also possible to add languages after a database has been created (see Section 2.15.1).

Please also note that you do not necessarily have to translate survey tracking forms and labels into all languages that are used to administer the questionnaires in your country. You may decide to adapt and translate forms and labels for one language only.

109. There are three ways to adapt the templates for survey tracking forms and labels:

- **Translations of the templates from the program installation directory**:
  When you install WinW3S, original templates for survey tracking forms are created in '*<drive>:\Program Files\IEA\WinW3S-II_TALIS13MS\bin\ExcelTemplates*' and templates for instrument labels are created in *'<drive>:\Program Files\IEA\WinW3S-II_ TALIS13MS \bin\Labels'*. If you adapt these before creating any new databases, then the translations will affect <u>every</u> language for <u>every</u> database (e.g. different ISCED options) you will create after the adaptation of templates.

- **Translations of the templates for a specific database**:
  When you create a new database, the templates for files and labels are copied from the installation directory (see above) and to a new folder per language defined, i.e. *'<database location> \Templates\<language>'*. Translating the forms and labels in this location will affect only the database in this location, and for forms/labels generated for the specific language.

- **Translation of the templates for a single form or a single set of labels:**
  If you want to change only one single survey tracking form or set of labels, you do not have to adapt any template. You can open the survey tracking form or label with MS Excel™; undertake the desired modifications directly in the document with the imported data, and then save the document.

110. No matter how you translate and/or adapt templates for forms and labels, you should follow certain guidelines in doing so. In general, all templates consist of static text elements that may be translated. These templates also contain data placeholder elements (indicated with "<_…_>" or "<<…>>"). These must not be changed, as otherwise the information from WinW3S will not be displayed properly on the survey tracking forms or instrument labels. However the text in the Teacher Tracking Forms/Listing Forms which displays the ISCED Level information in square brackets, for example the title "[ISCED Level 1] Teacher Listing Form" should be adapted, as it is unlikely that ISCED Levels will be meaningful to school coordinators.

111. If you would like to export additional information to the principal or teacher labels, which is not there by default, you can add one of the following data placeholder elements to the MS Word™ label templates by defining a new merge field. You can add a new merge field either by inserting a merge field directly (in Office 2007/2010 MS Word™ select **Quick Parts – Field…** from the **Insert** ribbon. In the **Field names** list box select **MergeField** and define the **Field name** according to the data placeholder names as described in Table 2-4 below. Alternatively you can copy and paste one

of the already existing merge fields. In this case you have to change the name of the new merge field with right-mouse click: select **Edit Field…** and change the field name according to the data placeholder names as described in Table 2-4.

Table 2-4: Optional data placeholders for instrument labels

Label	Content	Data Placeholder Name
Principal	School Name	<<C01>>
	School ID	<<C02>>
	Checksum	<<C03>>
	National School ID	<<C05>>
	Questionnaire Language*	<<C06>>
	Questionnaire Mode	<<C07>>
Teacher	Teacher Name	<<T01>>
	School Name	<<T02>>
	Teacher ID	<<T03>>
	Checksum	<<T04>>
	National School ID	<<T05>>
	ISCED Level	<<T09>>
	Questionnaire Language*	<<T10>>
	Questionnaire Mode	<<T11>>
	Maths Teacher (only PISA-Link and Maths Module labels)	<<T12>>

*Questionnaire Language is a single setting – representing the language of instruction used at that school.

Please Note!

If a translated text does not fit into its respective cell of the Excel listing/tracking form template, you have the option of decreasing the font size of the cell or of abbreviating the text.

There are no restrictions related to the colours used in the Excel templates; these may be changed if desired.

All forms are designed in such a way that they will be correctly printed on A4 or Letter format. Therefore it is inadvisable to change the general layout of the forms. In particular, no columns or rows should be added or deleted. This is particularly important if you plan to import information back from completed forms into WinW3S. However, if absolutely necessary, you can add additional columns at the end of the forms, in which case, if printing is necessary, you should adjust the height and width of the columns and rows to fit the desired paper format.

If you adapt the forms and plan to use these to import data electronically, you must test these before sending out to the schools

2.14 Creation of new label templates

112. If you are not able to use the standard size of the default labels you can create your own labels in MS Word™. To do this, create a new blank Word file and select the menu **Mailings** then **Start Mail Merge → Labels**. This will bring up a dialogue in which the new label size can be defined. Then go to the supplied template that you wish to adapt, and select the contents of the first label by using the ✣ handle that appears when holding the cursor over the label, then right-click and select **Copy**.

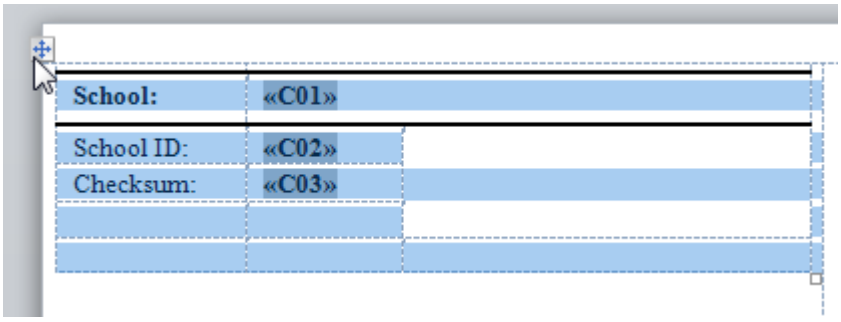


Figure 2-21: Selection of label contents

113. Now paste this (Ctrl + V) into the first label space of your new document. Finally, select **Update Labels** from the **Mailings** menu to copy this label over the entire page. Replace the original template by this new one with exactly the same name.

2.15 Functions under the Tools menu

114. WinW3S offers a set of features you can request for any database with schools marked as participating, from the **Tools** menu.

2.15.1 Defining further languages

115. As was seen in the database creation stage, if your country has more one language in use within schools, it is possible to create separate template folders to enable different forms and labels to be created depending on the language selected. However, if it is realised that a language was omitted at database creation, it may be added by clicking **Define Languages** under the **Tools** menu, which will bring up a window similar to this:

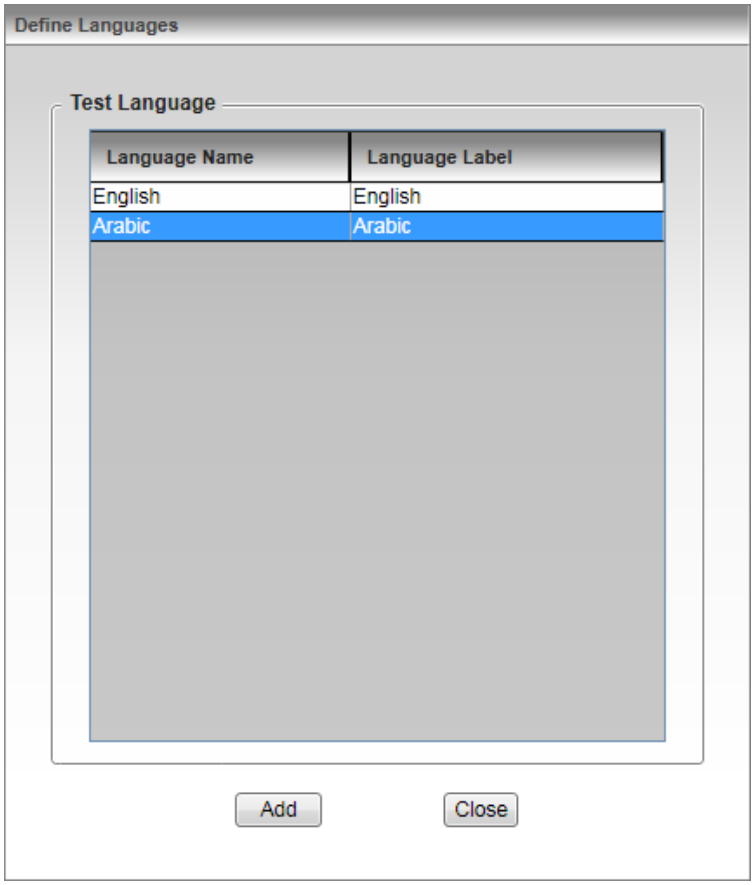


Figure 2-22: Defining an additional language

116. Click on **Add** to bring up an extra language to the list and select the language from the drop-down list. Then click on **Close** to complete. At this stage it is not possible to delete languages, but any additional language defined will not cause any problems.

2.15.2 Merge Databases

117. Because the listing and tracking processes usually requires you to handle large amounts of data, it may be more efficient that more than one person is entering data at the same time. The WinW3S merge function allows you to merge different databases and combine them into one final database, so that data from your country can be entered in different WinW3S databases on different computers at the same time.

- **Example:** If you have a set of 200 schools, person A would complete schools 1-100 and person B would work on schools 101-200. When they have finished data entry, these two databases can be merged. Indeed, it is possible to merge more than two sets of separate data.

118. While performing the merge process, the program will check for duplicate IDs. You should make sure school information is entered in different databases, *i.e.* only one database. Different punchers must not enter data for the same school in different databases. If WinW3S finds duplicate school IDs, the entries from the source database will be rejected.

Please Note!

The requirements for merging include that a school is only marked as participating for one database. It should be unmarked (not marked as 'Not Participating') in the other.

119. To perform the merge process, please do the following:

- Select **Merge Databases** from the **Tools** menu. The following window will be displayed:

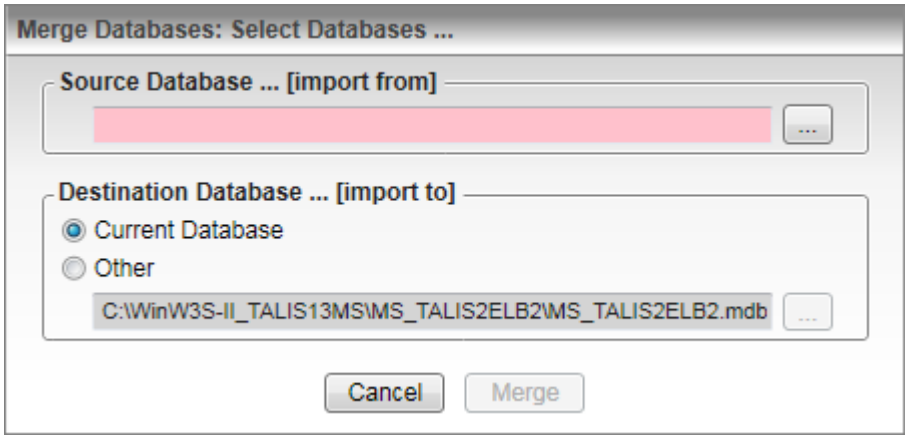


Figure 2-23: Merging two databases

- Type the path of the database from which you want to import data into the **Source Database…[import from]** section of the window, or browse to it using the '**…**' button.

- Define the path of the database you want to append your data to in the section **Destination Database … [import to]**. If you have already opened a database and decided to append the data to this current database, select the button **Current Database**. If you want to append to a different database, please click on **Other** and select the path of this database using the "…" button.

- When you have specified the databases to merge, click the **Merge** button. On successful completion, a message will appear:

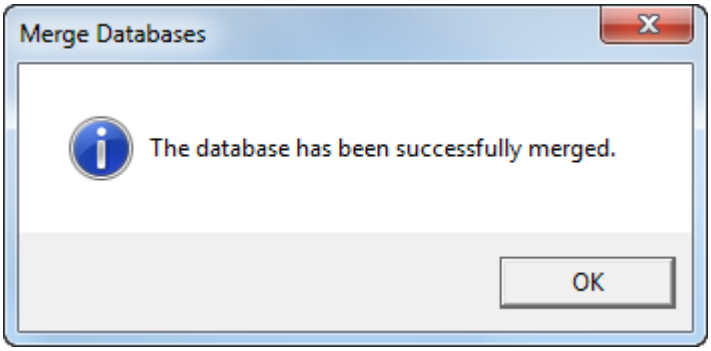


Figure 2-24: Merge success message

2.15.3 Export to Excel

120. This function provides a simple way to get information from the database to Excel format for further analysis, *e.g.* to obtain a list of all schools marked as participating.

121. On clicking the button **Export Database to MS Excel**, a window opens, requesting a destination folder in which to save the exported file. You can do so by clicking on the **…** button. Alternatively, you can leave the default *'<database location>\Export'*. Pressing the **Export** button creates an Excel file under the destination directory The name of the exported file is identical to the database name but has the file extension *'*.xls'*. Older files will be overwritten if the export is performed more than once to the same path.

122. The exported file contains three different worksheets:

- **variables&codes**: Provides an overview about all variables that have been exported, including their variable labels and field codes;
- **tblSchools**: Contains information on school level;
- **tblTeacher**: Contains information on teacher level;

Note that the teacher level information includes the additional columns for TALIS-PISA link for all databases (set to default values). Also note that all schools and teachers will be listed whether they are participating/sampled, or not.

2.15.4 Inconsistency Check

123. This report is essential for finding cases where the data in WinW3S is inconsistent, for example, if a teacher is marked as having not returned the Teacher Questionnaire in WinW3S, but for the same Teacher, the data is marked as 'available'. The cases appearing in this report should be solved before the database is exported for use by the ISC. If a teacher or principal is not listed, it means that the data is not considered inconsistent.

New

124. The reports appear under **Tools** and are no longer exported as Excel workbooks, as in the Field Trial, but are now built into WinW3S You will see that the reports are available under the buttons **Principal Inconsistency Report** and **Teacher Inconsistency Report**. TALIS-PISA Link Databases display a further button, **Maths Teacher Inconsistency Report**, which shows any inconsistencies relating to the *Mathematics Teacher Module*.

125. By way of example, the following table (Table 2-5) shows the logic employed for the Principal data:

Table 2-5: Inconsistency check logic

Return Status Principal Questionnaire	Data Availability Principal Questionnaire	Flag as error
blank	1	no
blank	2	no
blank	3	no
blank	4	yes
1	1	yes
1	2	no
1	3	no
1	4	yes
2	1	no
2	2	yes
2	3	yes
2	4	yes

Return Status Principal Questionnaire

- Blank
- 1 – Returned
- 2 – Not returned

Data Availability Principal Questionnaire

- 1 – No data available
- 2 – Online data available
- 3 – Paper data available
- 4 – Both online and paper data available

There are three logical cases in this table that will return an error:

1. Any value of 4 (both online and paper data available) for the Data Availability of the Principal Questionnaire will flag an error. This is logical, as you would now have to decide which of the questionnaires to accept for that principal, if indeed both have been returned with data.

2. Further, one can see that for any Principal Questionnaire marked as 2 (not returned), any value for Data Availability other than 1 (no data available) will also return an error.

3. Lastly, there will be an error produced if the return status is 1 (returned), but the Data Availability is marked as 1 (no data available).

126. The logic for the Teacher Questionnaire Return Status and Data Availability (and for TALIS PISA link, those for the Mathematics Teacher Module), is similar but includes the additional Return Status categories for teachers having left the school over the administration of the survey either permanently or for long periods due to say, maternity leave or a sabbatical. Obviously in these cases we simply would expect Data Availability to be 1 (no data available).

127. For cases where ODC is the mode of administration, you should check whether data availability has been imported from the Excel report from the Monitor (see section 2.12.3). This may need to be done several times to update the information. For paper administration, the same will apply in respect to the DME export .It may also be necessary to refer to the *Teacher Tracking Forms* to confirm the reported Return Status.

128. Following the logical cases given above, resolve inconsistencies in the following ways:

- Information available in both paper and on-line forms (Data Availability = 4).

  You should first of all verify the data availability for both sources. The return status should be set to 2 (Online data available) if <u>only</u> online data is available, or set to 3 (Paper data available) if <u>only</u> paper data is available.

  If there is in fact <u>both</u> online <u>and</u> paper data available, it is most likely that a respondent attempted to work with the online questionnaire, but either had problems (*e.g.* intermittent internet connection), or preferred to work on paper. In any such case, the data content should be compared between the two questionnaires, and the one with the most data taken. The Data Availability and the Questionnaire Mode fields in WinW3S should be set appropriately.

If online and paper data is available, leave the data availability status as 4 (both online and paper data available) and insert a comment in the inconsistency report's 'Comment' column.

- Return Status = not returned (2), Data Availability = data available (2 or 3)

  In this case, it is necessary to recheck whether a questionnaire has been returned, and if yes, replace the value for return status, (reported by the School Coordinator) in WinW3S. You should refer to the *IEA Online SurveySystem Monitor* to verify the availability of online data and refer to the DME database to verify the availability of data for returned paper questionnaires. If neither online nor paper data is available, set the Data Availability to 1 (no data available).

- Return Status = returned (1), Data Availability = no data available (1)

  In this case, it is necessary to check for the existence of the questionnaire, and if not located, to request confirmation from the School Coordinator that the questionnaire has been sent if completed in paper mode or completed online. It may be necessary to remind the respondent to complete the questionnaire.

  In order to verify the data availability it is recommended to first of all import the online data availability from the *IEA Online SurveySystem Monitor* and for paper-based questionnaires from DME. If you receive confirmation from the School Coordinator that a paper instrument was completed and submitted to the national centre, you should locate the instrument and enter in DME, if necessary.

  It may happen that a paper instrument was completed but lost before entering in DME. In this case you should add a comment in the inconsistency report stating this fact.

- For the teacher level only there is the added case: Return Status = left school (4), Data Availability = data available (2)

  In this case the *Teacher Tracking Form* should be referred to, to check that the return status has not been incorrectly entered into WinW3S. Failing that, enquiries should be made to the School Coordinator to determine the status of this teacher.

  Note that errors are generated for the Return Statuses of (5) or (6), however these may still be correct (for example data may exist for a Principal who teaches, who was listed without an exemption code, was sampled and indeed completed a Teacher Questionnaire). Such occurrences are to be investigated, but left for the ISC to resolve.

- For PISA Databases only: inconsistencies are also reported for data existing on the teacher level when a teacher is **not** marked as 'PISA Maths Teacher'.

129. Remember that there are comment fields in the reports to allow you to make a note regarding specific inconsistencies for yourself, and for the ISC as information for data cleaning.

2.15.5 Participation Rate Estimator

New

130. This new feature is incorporated into WinW3S to enable NPMs to more easily monitor the progress of data collection in sampled schools.

131. The ISC would like to emphasise that the values produced are considered INFORMATIVE only and do not guarantee that listed schools or teachers will finally be considered as participating. In particular:

- Official response rates will be calculated only after collection, cleaning and weighting!
- The intention should always be to obtain teacher 100% participation in **all** selected schools.

- The information displayed can only be as accurate and up-to-date as the information you provide to it.

- TWO rates are given. One is based on the Data Availability (this is particularly useful for ODC-only countries): in theory this is 'real' data, and should be considered more accurate. The rate based on Return Status can only be as accurate as the process used to obtain this data, which is usually returned by the school coordinator.

- Note that the Data Availability, if imported from OSS or DME will count any single response by a respondent as valid. The latest Technical Standards require one background question response as well as one response from one other part of the relevant questionnaire to be accepted as a valid record.

- We assume that the Principal Questionnaires are or will be completed and returned. It is your responsibility to check this; missing Principal Questionnaires invalidate the school.

- The Data Availability for any teacher marked as '5 –should have been out-of-scope' is never included.

132. To produce the report, simply click on **Participation Rate Estimator** from the **Tools** menu and this will produce an output as an Excel™ workbook.

133. The following table displays the structure of the worksheet produced:

Table 2-6: Worksheets in the Particpation Rate Estimator

Worksheet	Description
Overview	Descriptions of all values presented in the spread sheet
School Sample	Basic overall statistics regarding the total numbers of schools, those marked as participating, any replacement schools and refusals
Teacher Sample	Statistics for each school that is marked as participating regarding teacher statuses, data availability and total eligible teachers with estimated teacher response rates per school.
Summary	Statistics based on all schools, with overall estimates for participation based on Return Statuses and Data Availability

134. The Overview sheet contains detailed description of the meanings of the values reported.

New

135. The Consortium requires regular updates of the progress of data collection in participating countries; this will be achieved in the Main Study by a simple export of the Participation Rate Estimate from WinW3S, and an upload of this to SharePoint. There is folder per ISCED Level for this purpose on SharePoint under your Country exchange library called '7 participation rate estimate'. You are asked to update the required information once a week, preferably prior to your weekend, as soon as data collection is begun.

2.15.6 Reset View

136. This function resets the view of WinW3S to the default settings. On selecting this, a message box will open with the following text: "Do you really want to reset the default view?". When selecting "**Yes**", the default settings get restored. This includes:

- Maximizing the ribbon (if minimised).

- Resetting any adjusted list column widths (for school or teacher List-View).
- Resetting any changed list column order.
- Resetting any sorted list columns.

When selecting "**No**", the application view will remain the same as before.

2.16 Checklist

- ✓ Receive (download) software and materials.
- ✓ Read and understand system requirements and licensing terms.
- ✓ Install software on desired computer(s).
- ✓ Create one database per School Sample Database received (one per international option).
- ✓ Translate/Adapt Forms and Labels as required.
- ✓ Resolve any inconsistencies.
- ✓ Export the database.

3 PREPARING FOR ONLINE DATA COLLECTION WITH THE IEA ONLINE SURVEYSYSTEM DESIGNER

3.1 Workflow

137. In TALIS, the *IEA Online SurveySystem* software is used to prepare and administer the international option "Online Data Collection".

Please Note!

The *IEA Online SurveySystem* software and all accompanying materials and manuals are property of the International Association for the Evaluation of Educational Achievement.

138. Please refer to the *National Project Managers Manual* (FT-01) for an outline and details about online data collection in general, additional steps with respect to instrument preparation, conversion, and verification and the steps necessary to provide respondents within schools with an internet address and an access ID and password to access the questionnaire online.

139. In addition, section 4.3 of the *School Coordinator Manual* (MS-04) describes the administration of questionnaires over the internet from a school perspective.

140. This chapter covers the general steps and tasks to prepare for Online Data Collection. If you plan to make structural adaptations to the questionnaire (*e.g.* additional response categories), section 3.19 of this manual describes the steps necessary to make any national adaptation to the international structure of the questionnaires.

141. The following illustrates the general workflow for the Online Data Collection. If you intend to administer online questionnaires to more than the TALIS core (ISCED Level 2), you will first need to finalise the adaptation and translation of the ISCED Level 2 online instruments, before you start this process for any other international option (ISCED Level 1, ISCED Level 3 or the TALIS-PISA link). This will ensure that you can reuse all of your translations and adaptations that are common in your instruments of the TALIS core and any of the international options.

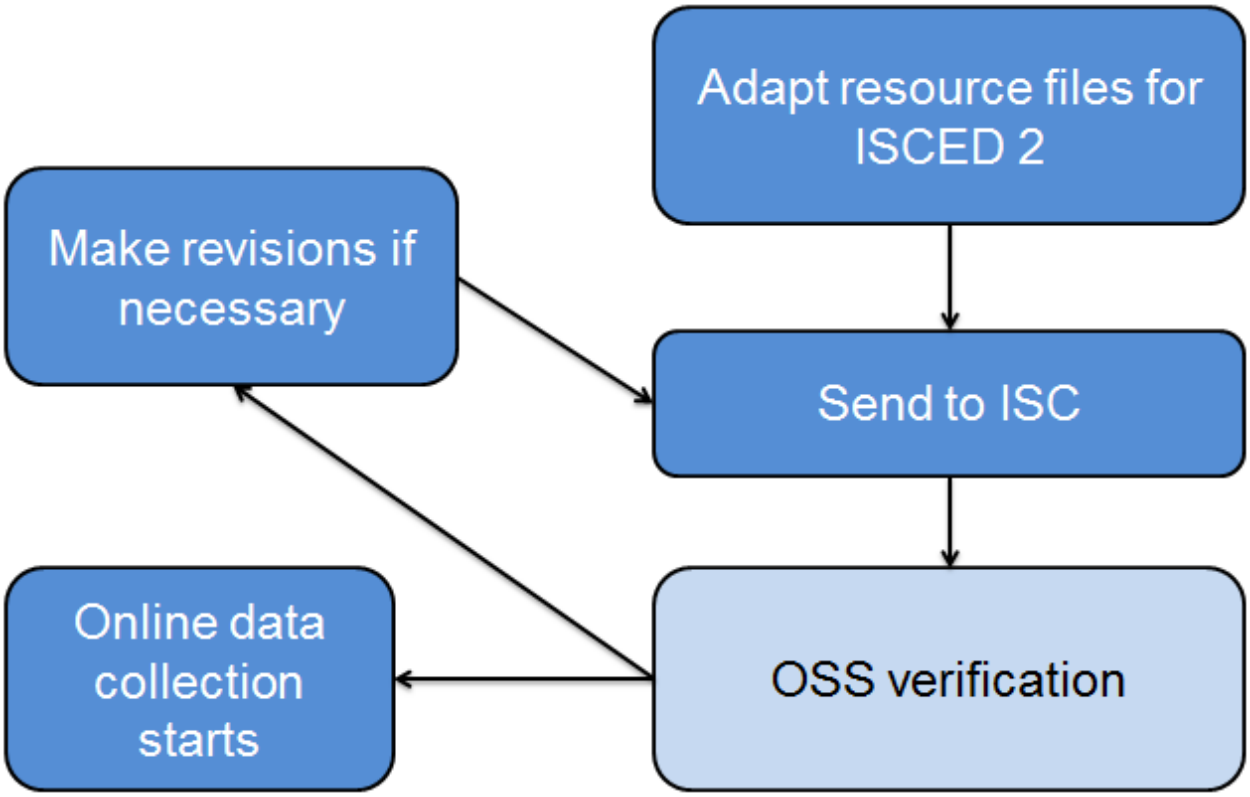


Figure 3-1: Workflow for the adaptation of SurveySystem files for the TALIS core (ISCED 2)

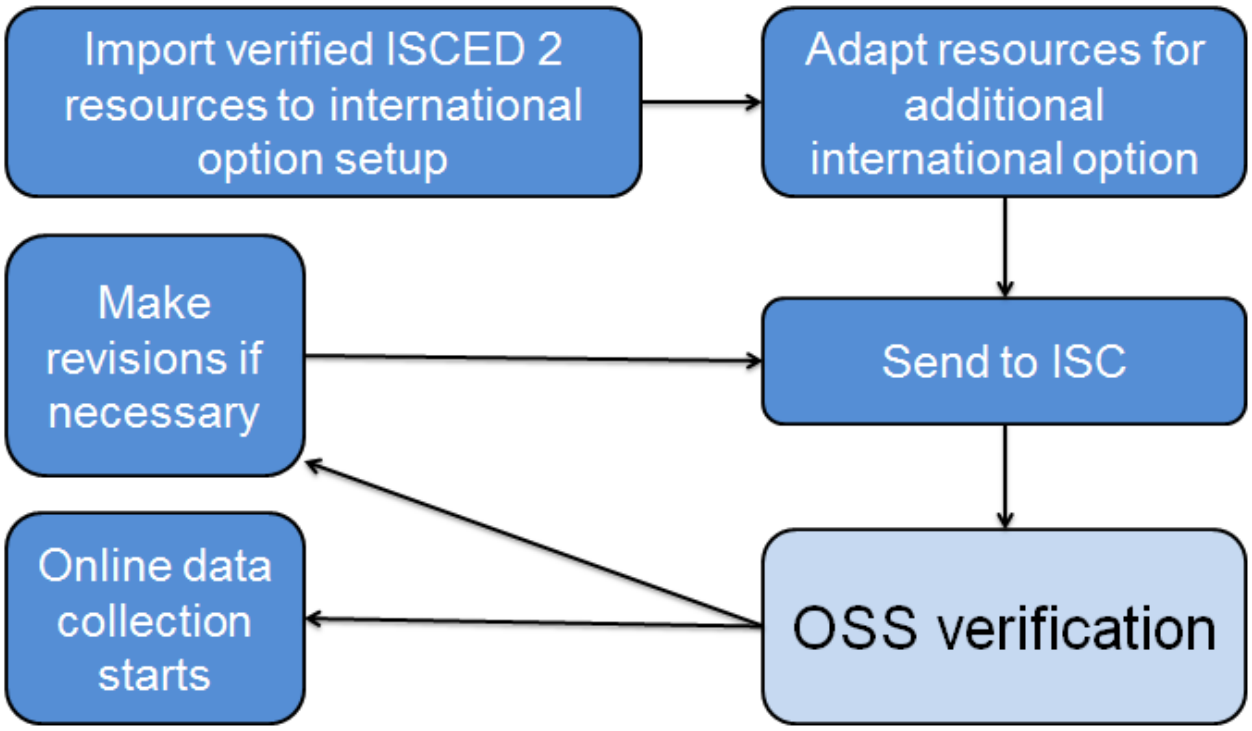


Figure 3-2: Workflow for the adaptation of SurveySystem files when administering additional international options

3.2 System requirements

142. The *IEA Online SurveySystem* runs on all computers – regardless of the system language – with at least Microsoft Windows 2000, XP Home or Professional installed. The software is also compatible with Microsoft Windows Vista and Windows 7 (32 and 64 bit).

143. The following hardware requirements must be met to guarantee the correct performance of the software:

- Browser: Internet Explorer 5.0 or above (for use of the preview)
- Processor: Pentium 133 MHz or higher (recommended is Pentium-4 1.4 GHz or faster
- RAM: 256 MB or higher (recommended is 1 GB or higher)

Please Note!

Please note that the requirements for the online users are lower than for the persons dealing with the Designer application. All online users must have an internet browser and a decent-sized screen available.

144. The *IEA Online SurveySystem* is built on the Microsoft .NET Framework 4, which is a programming infrastructure similar to Sun Java and used by a large number of commercial and non-profit software products. It is the only requirement to run any component of the *IEA Online SurveySystem*. The .NET framework is fully Unicode compliant and will therefore store and handle any language or script appropriately.

3.3 Installing the software

145. To install the *IEA Online SurveySystem* software, start the setup archive that you have downloaded from the TALIS Sharepoint. Please note that there will be five setups provided. Below is a list of which setups are needed for which international option:

- ISCED Level 1: ‘SurveySystem_TALIS13MS_ISCED1’
- ISCED Level 2: ‘SurveySystem_TALIS13MS_ISCED2’
- ISCED Level 3: ‘SurveySystem_TALIS13MS_ISCED3’
- TALIS –PISA Link: ‘SurveySystem_TALIS13MS_PISA’ and ‘SurveySystem_TALIS13MS_MTM’

146. To install any of the setups please double-click on the installation file and proceed as follows:

- You will be asked to proceed with the installation. Please click on the next button and enter your name and organisation.
- Now choose the folder where the *IEA Online SurveySystem* will be located on your hard disk. To change the default location, click on the **Change** button, and enter the location manually or browse through your existing folders. You are free to install the software to any location on your hard drive, but we recommend installing the software to the proposed default location (which is ‘*C:\Program Files\IEA\...*’ on English systems) to be consistent with the default paths described in the manual in respect to file operations.
- After proceeding, you will see a summary of the information you entered. If the information is acceptable, proceed with the installation.

- The program will install all necessary files onto your system. After all files have been copied, simply finish the setup wizard.

- The program and related documents are now accessible through the **Start → Programs** menu. By design, it will be available to all users on your system.

Please Note!

In most cases, you will need to log in to your computer system as a member of the administrators group to install the .NET framework and the software. If you are not a member of this group or if you encounter problems during setup, please contact your local system administrator before you contact the IEA Data Processing and Research Center.

3.4 Including the international online questionnaires

New

147. The TALIS 2013 MS version of the SurveySystem does not include the international questionnaire in the setup file. This means, that after installing the software and defining your data folder, you have to copy the international resources to the appropriate folder.

148. Start the SurveySystem and login as manager (see paragraph 152). It is very important at this point to define your data folder (see paragraph 161), since this will create the folder to which you have to copy the international resource files. Confirm by selecting **OK**.

149. This will be confirmed by an error message, which you can ignore.

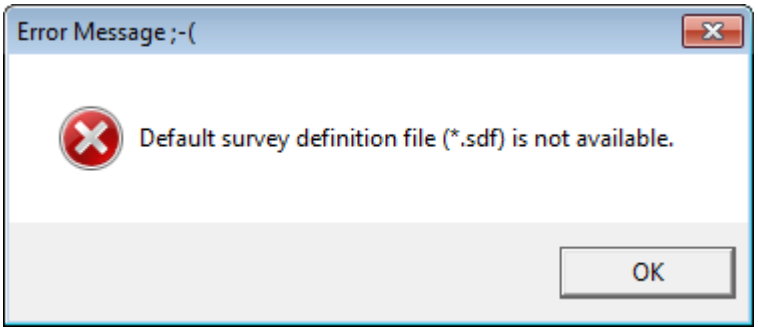


Figure 3-3: Error message when SurveySystem resource files are not yet included

150. Now, copy the TALIS 2013 MS international resource files to the folder <your defined data directory> \SurveySystem_TALIS13MS_ISCED2\Data\resources\.

151. Start the SurveySystem and login as manager (see paragraph 152).

3.5 Login

152. After the installation, start the program. You will find the shortcuts in your programs menu under (*e.g.* ISCED 2 setup) "**IEA → SurveySystem_TALIS13_MS_ISCED2 → SurveySystem_TALIS13MS_ISCED2**". You will see the welcome screen with the login information.

3.5.1 Roles and cultures

153. Roles limit functionality according to the person completing the specific task. The *IEA Online SurveySystem Designer* supports two roles for the work within countries. These are "Managers" and "Translators".

- Managers are entitled to change the structure of a questionnaire.
- Translators will only be able to access and modify texts within the structure, but not the structure itself.

154. A third role ("Administrator") is not intended to be used within countries.

155. The *IEA Online SurveySystem* is based on the concept of cultures. The "Designer" application will allow you to log in to the system with a specific culture, which is a combination of language and country or region. An example for a supported culture name is "en-HK", which stands for the language English in the region of Hong Kong. Each culture corresponds to a so-called locale ID (LCID), assigned by Microsoft in the early 90s, that is used throughout the Windows world. To meet the needs of the TALIS survey, the software team at the IEA DPC has added some custom which are cultures not part of the Microsoft .NET system, such as in Arabic ("ar-IL").

156. The IEA Data Processing and Research Center provides international master definition files for the *IEA Online SurveySystem* in English that are culturally neutral (name "en"). These master files will contain a full hierarchical representation of the questionnaires. Note that due to the technical nature of the software, definition files will not be provided in French.

157. A detailed table of supported culture is outlined in Annex B . It indicates which culture abbreviations the *IEA Online SurveySystem* uses, and on which website the corresponding questionnaire will be located for live surveying.

3.5.2 Logging in

158. After having installed the program, the Designer can be opened from the program directory.

159. To log in, please select the appropriate role and culture from the two combo boxes.

- The password for the **Manager** role is: "**cookie**"
- The password for the **Translator** role is: "**bird**"

160. In order to login it is also necessary to define the Data Directory. You can do so by browsing to the desired location and choosing the data directory path. Amongst other application data the data directory will contain the definition files, representing the questionnaires. Please make sure that you have full folder control for the path which you specify here. We recommend you use '*D:\TALIS_OSS\ISCED2'* for example.

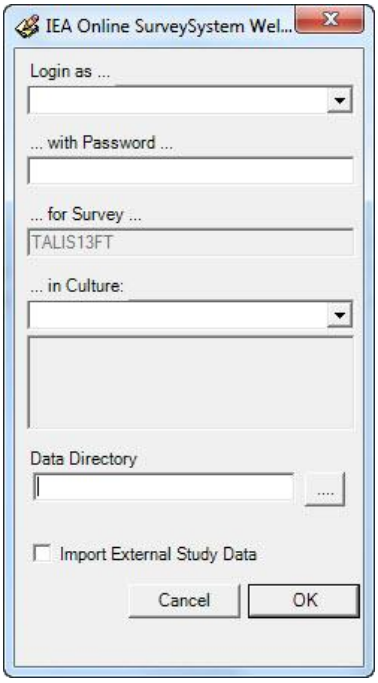


Figure 3-4: Login for the IEA Online SurveySystem

161. When logging in for the first time, the data directory is empty by default and has to be specified. On login the system will save the data directory and when logging in subsequent sessions, you do not have to specify the data directory again.

Please Note!

The program will create several subfolders in your specified data directory.

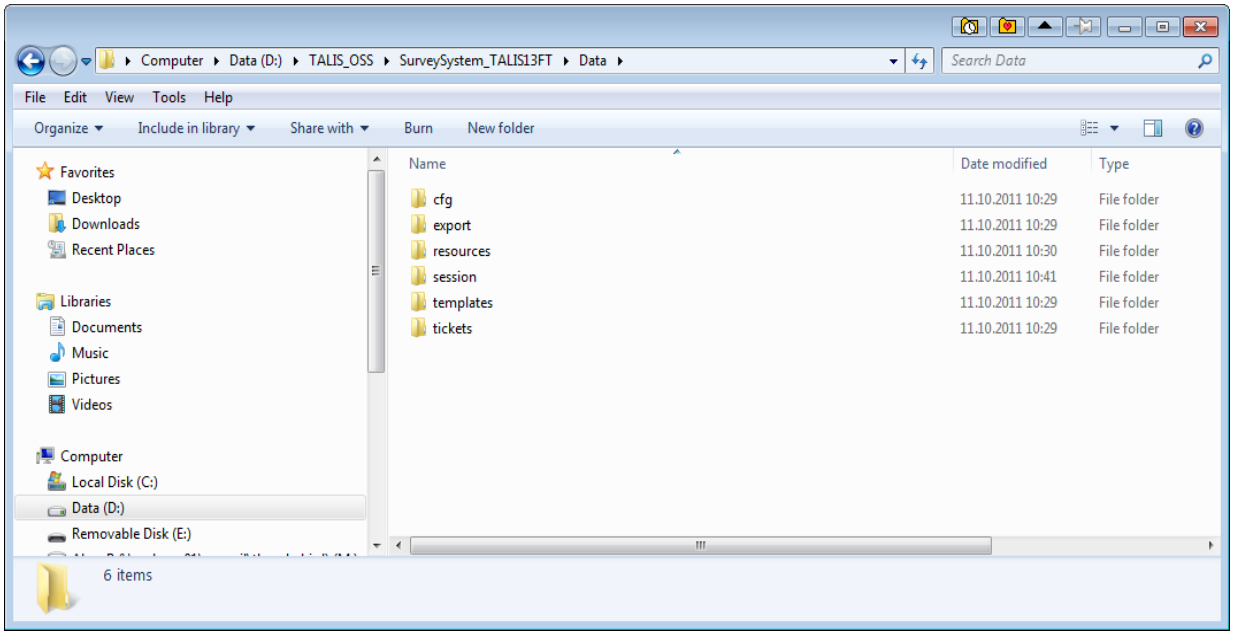


Figure 3-5: Defining the path for the data directory

162. After you have completed the login details press **OK** to confirm. If you log in for the first time, the application will make copies of the international survey definition files for the selected culture and load the files from the defined data directory.

3.6 Overview

163. After logging in, you will find yourself in the main screen of the *IEA Online SurveySystem Designer* application.

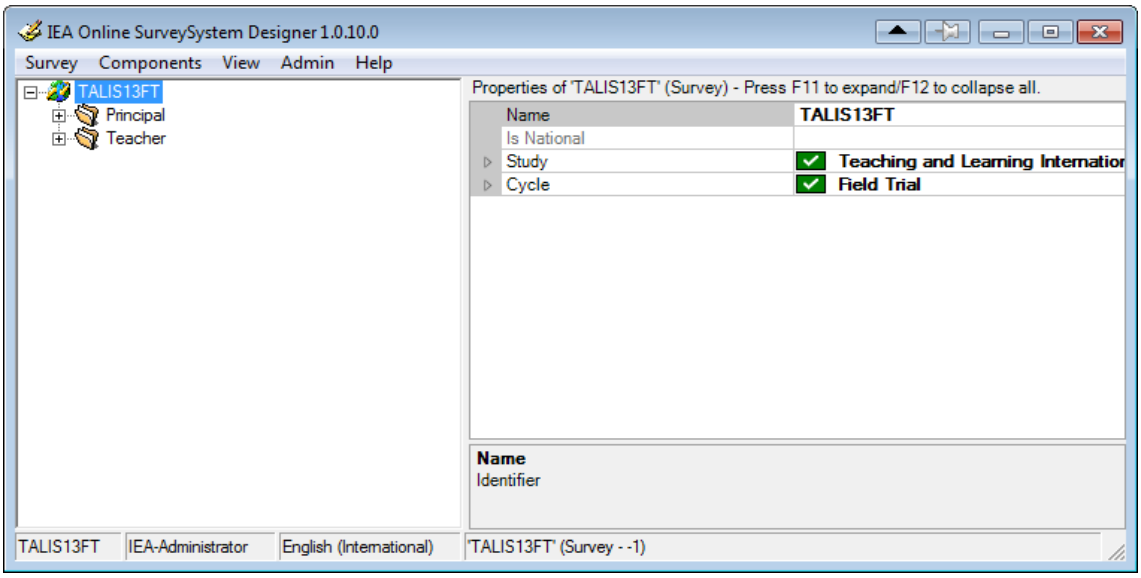


Figure 3-6: Main Screen of the IEA Online SurveySystem Designer

164. On the left part of the screen, you will see the *Component Tree* where the *components* of the survey are displayed in a tree-view. These components include the current database comprising the two questionnaires (Principal/Teacher). Each questionnaire is hierarchically divided into the further components:

- Questionnaire Section
- Question
- Question Part

Please Note

For the TALIS13MS_MTM setup, there is only one questionnaire (Mathematics Teacher Module) available.

165. If you have selected any component, you can expand all child nodes and see its lower level components by pressing the [F9]-key. By pressing the [F10]-key all child nodes will be collapsed.

166. On the right side of the screen, the properties of the currently selected component are displayed. With the [F11]-key you can expand all child nodes and view all properties of the selected component. By pressing the [F12]-key all properties will be collapsed.

167. By selecting the **Properties Text Size** from the **View** menu you can change the font size of the properties window from 'normal' (default) to 'larger' or 'largest'. In addition, the **Define Font** menu entry allows you to select any font installed on your machine for display. This might be useful if certain characters are not displayed correctly in the default font used in the Designer.

3.7 Disabling an entire questionnaire (if not administered online)

168. Because countries may decide to administer the online version of a questionnaire only to either teachers or principals, the *IEA Online SurveySystem* allows you to disable an entire questionnaire.

169. To disable a questionnaire, browse to the desired "Questionnaire" and expand the node.

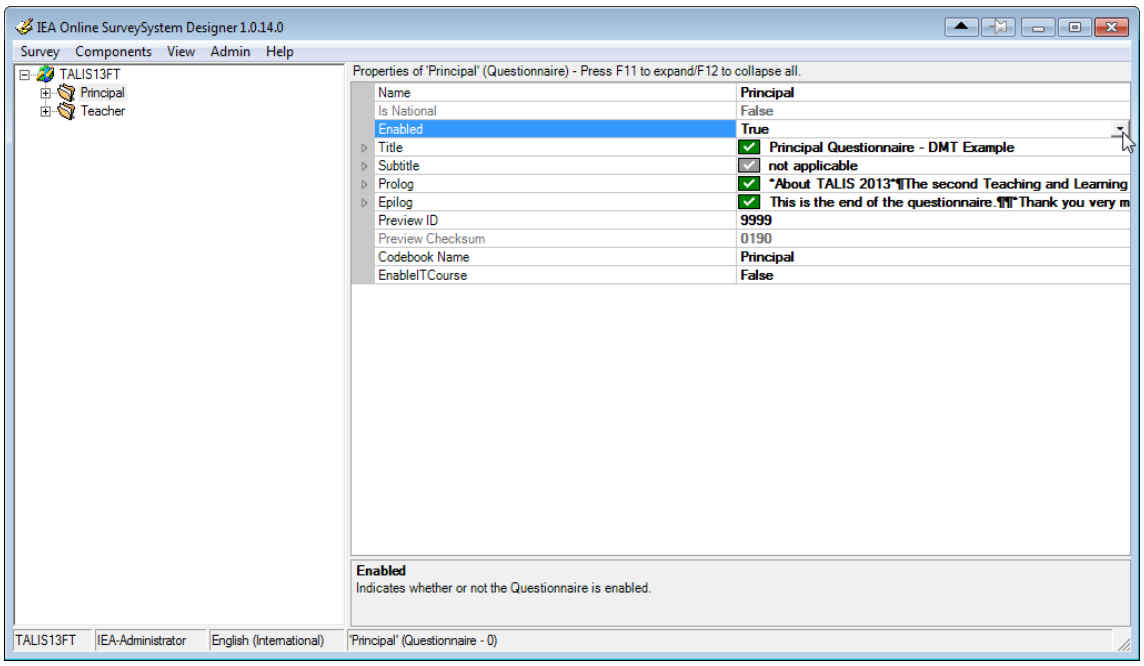


Figure 3-7: Properties window of the Principal Questionnaire

170. Set the "Enabled" property to "False". This questionnaire will be hidden from the web application from now on.

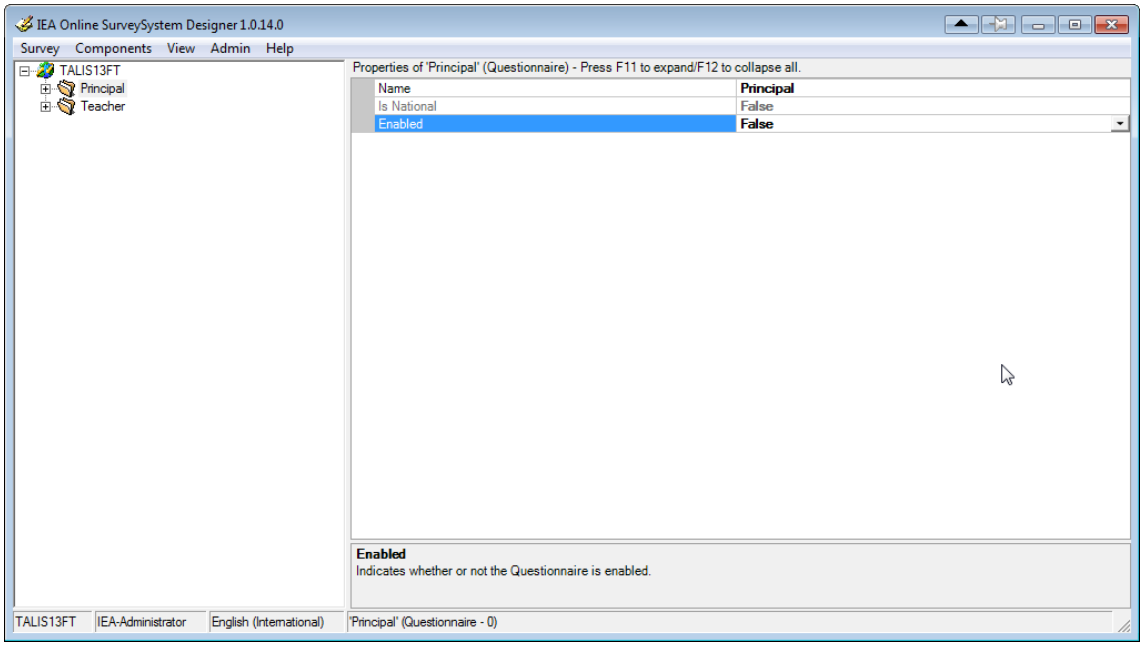


Figure 3-8: Disabling the Principal Questionnaire

171. Consequently, translations are not required for any of the passages defined within the questionnaire.

3.8 Viewtypes

172. Below the level of Question Parts, everything is arranged in *viewtypes*. Each Question Part can consist of one or more viewtypes.

173. There are 7 predefined viewtypes out of which every question can be made:

- Single (Non-Categorical)
- Single (Categorical)
- Single (Check all that apply)
- List (Non-Categorical)
- Matrix (Categorical)
- Matrix (Check all that apply)
- Matrix Mix

174. Viewtypes consist of *dimensions* and *categories* (except the non-categorical viewtypes, which only consist of dimensions). All 'single' viewtypes have only one dimension.

175. A *dimension* is the part of a question where a response is expected, including a possible answering text. Within the *IEA Online SurveySystem*, dimensions are always labelled with upper case characters.

24. From the following people, how often have you received appraisal and/or feedback about your work as a teacher in this school?

Please mark one choice in each row.

Dimension	Never	Once a year or less	2-4 times a year	5-11 times a year	Once a month	Once a week or more
a) Principal	☐1	☐2	☐3	☐4	☐5	☐6
b) Other teachers or members of the school management team	☐1	☐2	☐3	☐4	☐5	☐6
c) External individual or body (e.g. external inspector)	☐1	☐2	☐3	☐4	☐5	☐6

Figure 3-9: Example of a dimension

176. *Categories* refer to the different response options of a dimension. Within the *IEA Online SurveySystem*, categories are labelled with numbers from 1 upwards for each viewtype.

24. From the following people, how often have you received appraisal and/or feedback about your work as a teacher in this school?

Please mark one choice in each row.

Category	Never	Once a year or less	2-4 times a year	5-11 times a year	Once a month	Once a week or more
a) Principal	☐1	☐2	☐3	☐4	☐5	☐6
b) Other teachers or members of the school management team	☐1	☐2	☐3	☐4	☐5	☐6
c) External individual or body (e.g. external inspector)	☐1	☐2	☐3	☐4	☐5	☐6

Figure 3-10: Example of a category

3.9 Conversion

177. Conversion for ODC is merely a matter of copying and pasting all texts from the Word files to the corresponding position in the *IEA Online SurveySystem Designer* software application. For instance, you will copy the title of the first section 1 in the teacher questionnaire into the corresponding field in the questionnaire section node of the *Survey System Designer*.

178. You will need to repeat this step for every piece of text in the paper version. In addition, the ODC system requires you to translate a number of system texts to your national language(s) that are not applicable to the paper version. Examples for system texts that require translation (so-called resources) are navigational buttons (“Next”, “Previous”), welcome messages, and login instructions.

Please Note!

Remember the basic rule that the online version of your national questionnaire must match the paper version 100%!

Deviations introduced by countries, other than those listed in sub-section 3.9.1, are not acceptable.

3.9.1 Deviations between online and paper version

179. Minor deviations and subtleties between the paper and online version of instruments are almost unavoidable. The Table below shows differences between both administration modes for the TALIS 2013 Main Study questionnaires:

Table 3-1: Deviations between online and paper version of the TALIS 2013 MS instruments

Difference between online (OSS) and paper	Where?
Circles (OSS) instead of check-boxes (paper) used as response fields.	All questionnaires, all questions except "Mark all that apply".
In OSS every second option is shaded grey (instead of all white in paper).	All questionnaires, all questions with multiple items (matrix-questions), *e.g.* PQ-18, TQ-14.
Number fields are placed to the right (OSS) instead to the left (paper).	PQ-04, PQ-19, TQ-05, TQ-39.
Paper version uses number fields for each digit of the number whereas there is only one field for the whole number in OSS.	All questionnaires, all non-categorical, Numeric questions, *e.g.* PQ-02, TQ-02.
Section headings are always shaded grey.	All questionnaires, *e.g.* above PQ-01.
Some instruction texts contain spacing to highlight the beginning of a new paragraph in the paper version. This is not included in OSS	For example Prologue in all questionnaires, instruction texts in PQ-07, TQ-14.
National Return Procedures in Prologue deleted in OSS	6th bullet in Prologue of PQ-paper, 4th in TQ and MTM
There are no dotted leaders in OSS	All questionnaires, all multi-item (matrix) questions
Check-boxes are not numbered in OSS, *i.e.* are not labeled with the according numeric code	All questionnaires, all check-boxes
Epilogue: Naturally the text at the end of the questionnaire will be slightly different compared to the paper version	All questionnaires
Formatting: Instead of directly formatted text passages in MS Word, the online system relies on a set of formatting mark-ups (see section 3.9.6), e.g. "*estimate*" instead of simply "estimate", that call for attention and care during conversion.	All questionnaires
Skip instructions: Instead of instructing respondents to skip manually to a later question, the online system will redirect the respondent directly and automatically. Instructions similar to "Please go to question 18", as an online skip instruction, would not require any action from the user and are hence somewhat inappropriate. However for the ease of translation/conversion, copy these instructions "as is", as they inform respondents about the skipping that will occur once they press the **Next** button.	All questionnaires
After Instructions (skip instruction at the bottom of a question) are always italic in the OSS version	PQ-27, PQ-33, TQ-27, TQ-33

3.9.2 Conversion in the IEA Online SurveySystem

180. Each of the components in the tree-view can contain one or more text-passages that need to be converted. Some passages are repeated on multiple levels (such as 'Numeral' and 'Instruction'), because different levels may require different annotations *etc*.

181. To start conversion you will need the window on the right where the properties of the selected component are displayed. Once you click on one of the different branches on the left window, you will see the appropriate properties for that component on the right.

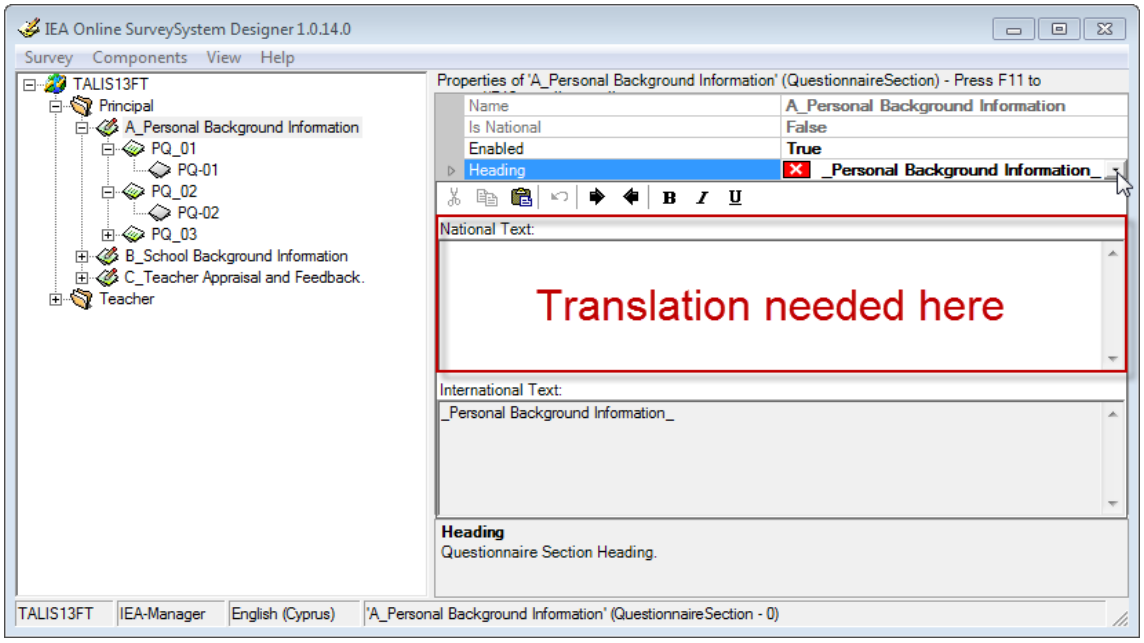


Figure 3-11: Untranslated heading of the Principal Questionnaire

182. Each different branch may have one or more passages that need conversion. The conversion status of these passages is displayed next to the international text. There are three possible icons to indicate their conversion status:

Table 3-2: Icons for conversion status in IEA Online SurveySystem

	not translated, but needs to be translated
	translated
	not applicable, no translation needed

183. You can find text that needs to be converted by looking for the red icon with a white cross. You can use the [F11]-key to expand all branches in the properties window on the right. After all conversions have been made, you can collapse all branches by pressing the [F12]-key.

3.9.3 Checking completeness of translations

184. There are two ways to check for the completeness of translations.

185. The translation status of text elements can easily be seen and checked from the property grid. You can find it on the right hand side of the main window, next to the international text. Search for the red icon with a white cross for international texts that have not been translated yet.

186. A second way to check for completeness of translations is using the feature **Check all Resources**. This feature systematically checks whether you have translated all texts required. You can access it by choosing **Check all Resources** from the **Survey** menu. The **Missing Resources** window will pop up and list all places were national translations were not inserted yet.

187. In the example in Figure 3-12, the translations for the Numeral and the Text for Question 1 of the Teacher Questionnaire are missing.

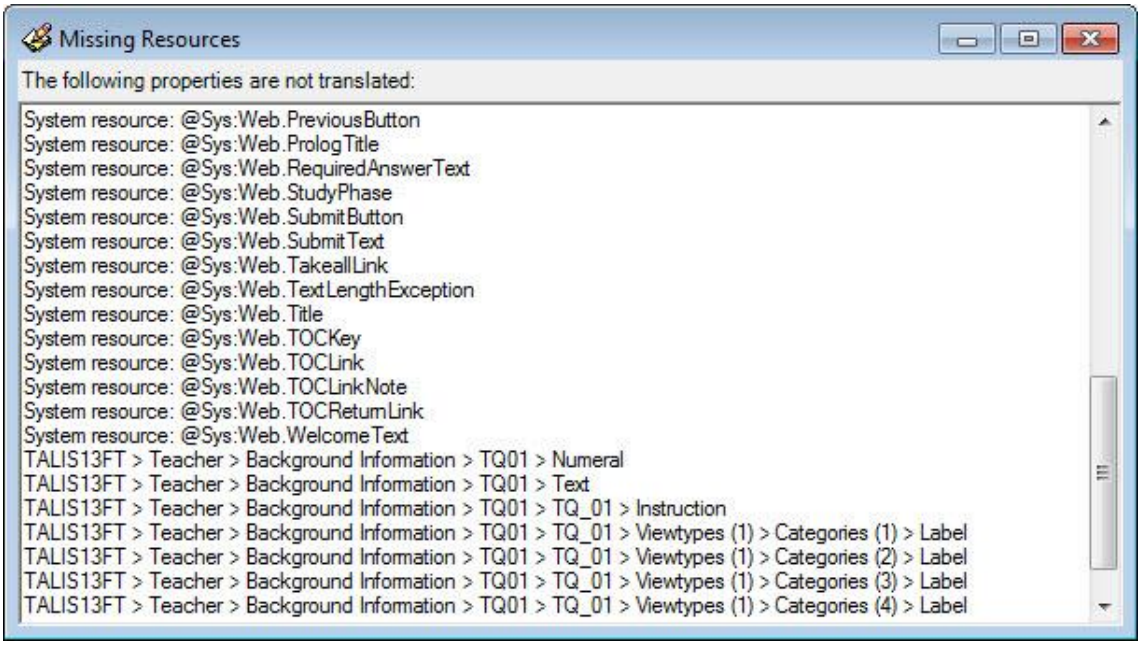


Figure 3-12: Example of Missing Resources Window

Please Note!

You only have to translate those system resources for which an international text is available. Those system resources which do not show an international text are not in use for TALIS 2013.

3.9.4 Check for duplicate properties

188. This feature enables you to check for categories and dimensions that do not have a unique national text for one and the same question. For instance, categories with the identical text (see Figure 3-13), would be detected. This feature can be accessed from the **Survey** menu entry **Check for Duplicates**.

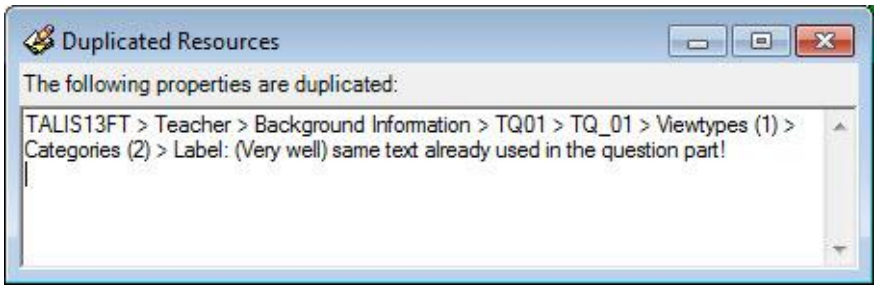


Figure 3-13: Example of Duplicated Resources

3.9.5 Checking layout using the Web Preview

189. Integrated into the IEA Online SurveySystem Designer is a **Web Preview.** This preview makes it possible to see the translated questionnaires as they will appear on the Internet during live test administration. To see the preview you should go to the **Survey** menu and select the **Web Preview** option. The Web Preview is the exact same application that will later on host the questionnaires on the servers at the IEA DPC.

190. The Web Preview will display the questionnaire at a certain position, based on the component selected in the tree-view:

- If you select the Survey, the preview will start displaying from the login page onwards.
- If you select one of the Questionnaires or a specific Section, the preview will display the first page of the questionnaire, which is the prologue.
- If you select a specific Question or Question Part, the preview will display the selected question. The example in Figure 3-14 shows question 8 of the teacher questionnaire, viewed through the Web Preview:

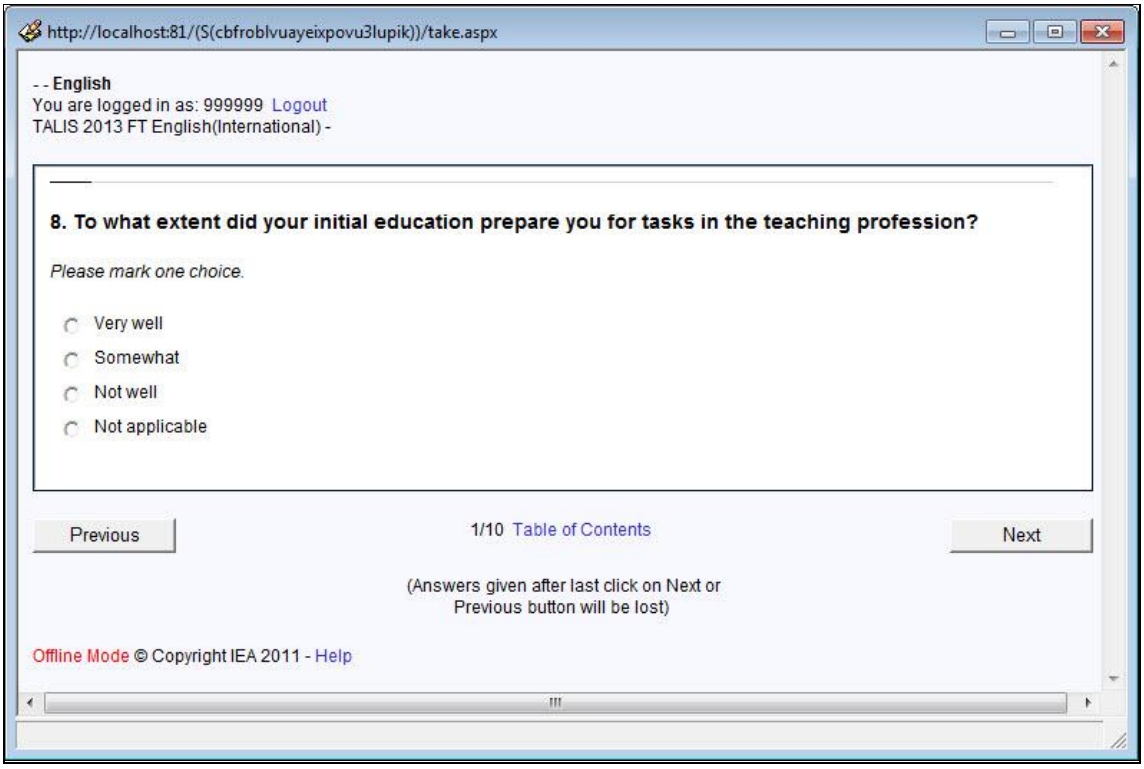


Figure 3-14: Example for Web Preview display

191. With the **Previous** and **Next** buttons you can navigate through the current questionnaire to see what the online version of the questionnaire looks like and where translations still need to be entered.

192. You can also navigate through the questionnaire using the Table of Contents. There you will find a link to all questions in the selected questionnaire.

193. In addition to the Table of Contents, respondents will see a summary page after they have completed the last question of the questionnaire. This summary page will then point to questions which have not been answered yet.

Please Note!

The start-up time of the preview is longer than the actual live survey will be, simply because the application starts an internal web server for each new preview.

194. According to Standard 8.5, national centres are responsible for a complete within-country optical comparison between the paper and the online mode. Please make sure you check the layout of your online instruments with the web preview before you submit them to the ISC for verification.

3.9.6 Formatting (bold, underline, italic)

195. There are some passages in the questionnaires where you will need to format your national text to express intended emphasis. In these cases, the *IEA Online SurveySystem* uses an adapted version of the basic formatting technique named "Textile".

196. The system recognises text passages that are marked in the following ways:

- Text enclosed within in asterisks (*text*) will be displayed as **bold** text.
- Text enclosed within underscores (_text_) will be recognised as *italic* text.
- Text enclosed within plus signs (+text+) will be recognised as <u>underlined</u> text.

197. **Figure 3-15** shows an example where the text **"**at this school**"** is underlined.

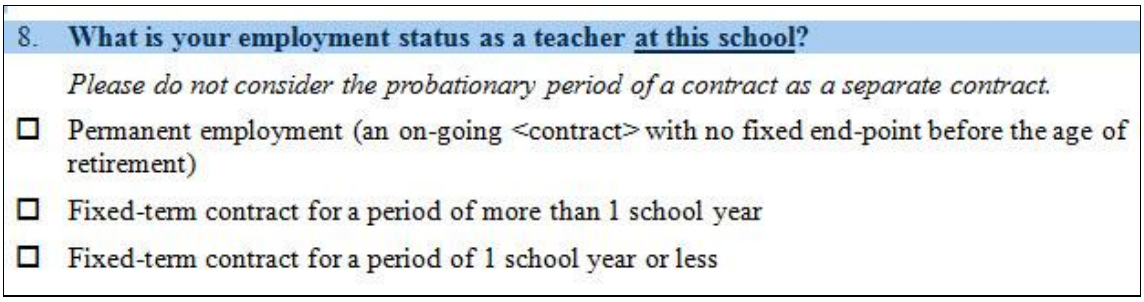


Figure 3-15: Example of underlined text

198. To apply this formatting, you will need to enclose the text "at this school" with plus signs. In the designer, this formatting would look like this:

Figure 3-16: Formatting of underlined text elements in the IEA Online SurveySystem

199. You must not use formatting as you see fit. Only use formatting in exactly those text passages where the formatting has also been used in the international text and make sure that your converted version exactly reproduces the international version.

200. As a rule, in the international version bold text is generally used for emphasis of single words. If the text, however, is already in bold print, underlined text is used instead and in addition to bold.

201. Please also note that you do not need to take care of system level formatting. For example, question stems will always appear in bold print and there is no need to enclose question stems in the

corresponding control symbols. Italic formatting is automatically applied to instructions for sections and questions and there are no instances where italic needs to be applied to individual passages.

Please Note!

HTML source code is not supported in any part of the IEA Online SurveySystem text passages and must not be used!

3.9.7 Two ways of converting text

202. Two distinct ways are available to enter conversions (in general this means translation, but it also encompasses the changes that English speaking countries may make). This can be done either directly in the properties pane or in a drop-down translation box.

3.9.7.1 Direct entry for single-line text passages

203. To enter conversions, expand any text passages by clicking the small plus/minus sign on the left of the passage or press the [F11]-key to expand all properties of the selected component. Enter the conversion directly in the row labelled 'National Text'.

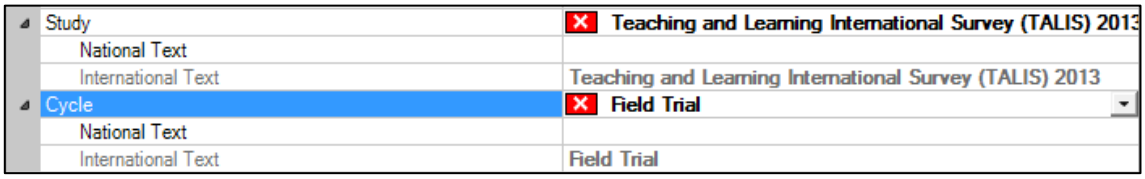


Figure 3-17: Example of a direct entry for single-line text passages

204. If a national text (*i.e.* a translated text) is given, this text is displayed next to the icon. If no text is given, the international text is displayed next to the icon.

205. Please note that it is not possible to write directly in the text field next to the icon. You have to expand each node separately.

206. The direct entry method does not allow for multi-line text, yet it does allow for formatting symbols.

3.9.7.2 Conversion box for multi-line text passages

207. If a conversion is needed, click on the row where the passage and its status are displayed, then on the drop-down arrow appearing on the far right.

208. By clicking this arrow, an in-line window will pop up, with the international text on the bottom, and the yet to be inserted national text on the top. You can now enter the translated text.

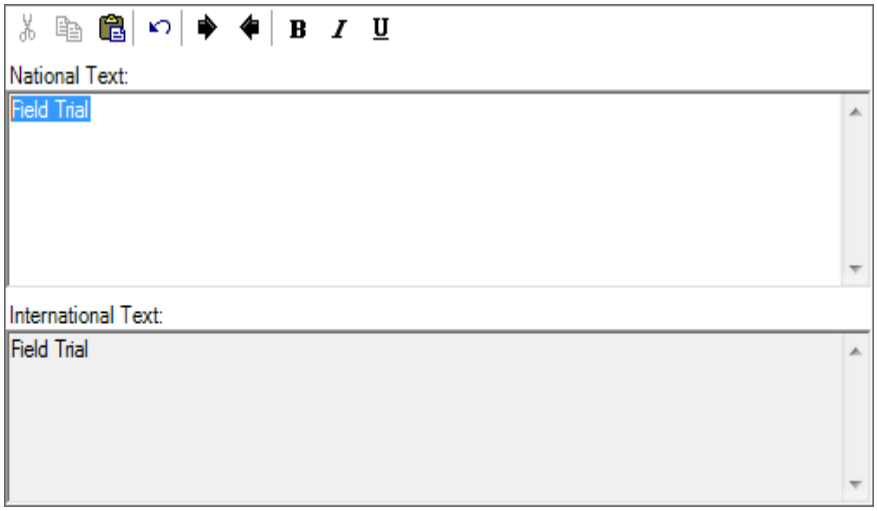


Figure 3-18: Example of a conversion box for multi-line text passages

209. The conversion box allows for text with line breaks. To enter a line break, press the 'Shift' key together with the 'Return' key. Line breaks in the *IEA Online SurveySystem* will be displayed using a paragraph symbol similar to the one used in MS Word (*i.e.* ¶) in the main view of the Designer.

210. Press the 'Return' key to confirm your changes and close the conversion box. If a translation was provided, the icon will change to green, indicating that the text is converted.

Please Note!

Both data entry methods will remove leading or trailing space around your passages, for example " text " will automatically be changed to "text".

Multiple space characters are reduced to a single space, *e.g.* "text 1 text 2" will become "text 1 text 2".

In addition, 'tab' characters – because they do not exist in HTML – are converted to a single space character.

3.9.8 Converting viewtypes, categories and dimensions

211. In addition to the translation described in the previous section, viewtypes, categories or dimensions can be translated in two ways. They are located under the corresponding properties –as described above, or in a separate window, which can be accessed through the button on the far right of the ViewTypes field, the Categories field or the Dimensions field.

212. For the first method, expand the viewtypes node and expand the various sub-nodes to get to all the text that has to be translated.

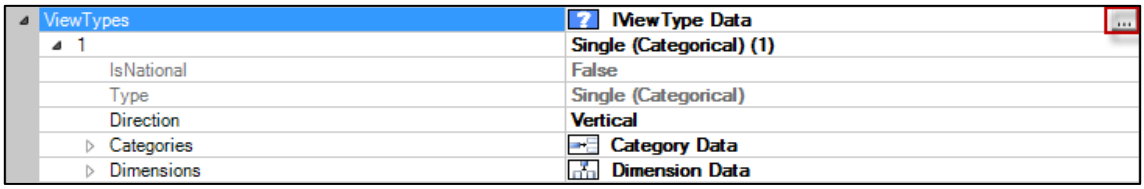


Figure 3-19: Expanding the ViewTypes node

213. For the second method, you should click on the button on the far right of the ViewTypes field, the Categories field or the Dimensions field. The ellipse button appears when you highlight the ViewTypes, Categories or Dimensions field on the left-hand side of the properties window.

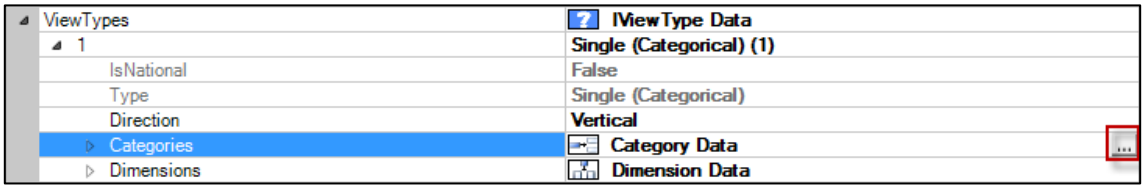


Figure 3-20: Expanding the Categories data node

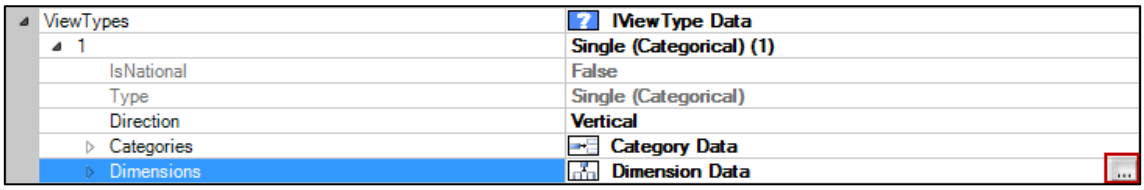


Figure 3-21: Expanding the Dimensions data node

214. This will open a separate window. In the left-hand part you can click through all the elements (members) of the selected property (viewtype, category or dimension). The properties of the current member are displayed in the right-hand part of the window.

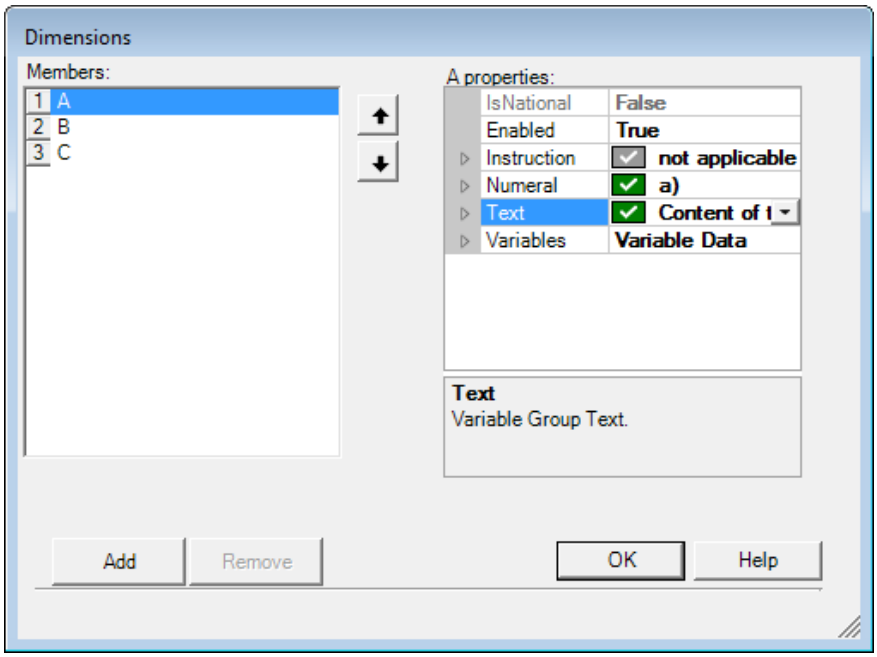


Figure 3-22: The Dimensions window

215. To translate the labels, dimension instructions, numerals and text, click on the arrow next to the text that needs to be translated. You will see the familiar conversion box (see 3.9.7.2). Alternatively, you can expand the node of the desired text and enter the translated text directly (see 3.9.7.1).

216. The benefit of the separate editor window is a simpler interface with fewer levels and less information in comparison to the full property tree.

217. After you have finished translating all text within the viewtypes, categories and dimensions, click the OK button.

3.9.9 Translating system resources

218. The system resources are values for a number of different buttons, labels, and messages appearing in the web-application. For instance, the **Next** button should display a translation that best reflects the sequential movement through the online questionnaire.

219. To adapt them to your language, open the **Survey** menu and choose **System Resources**.

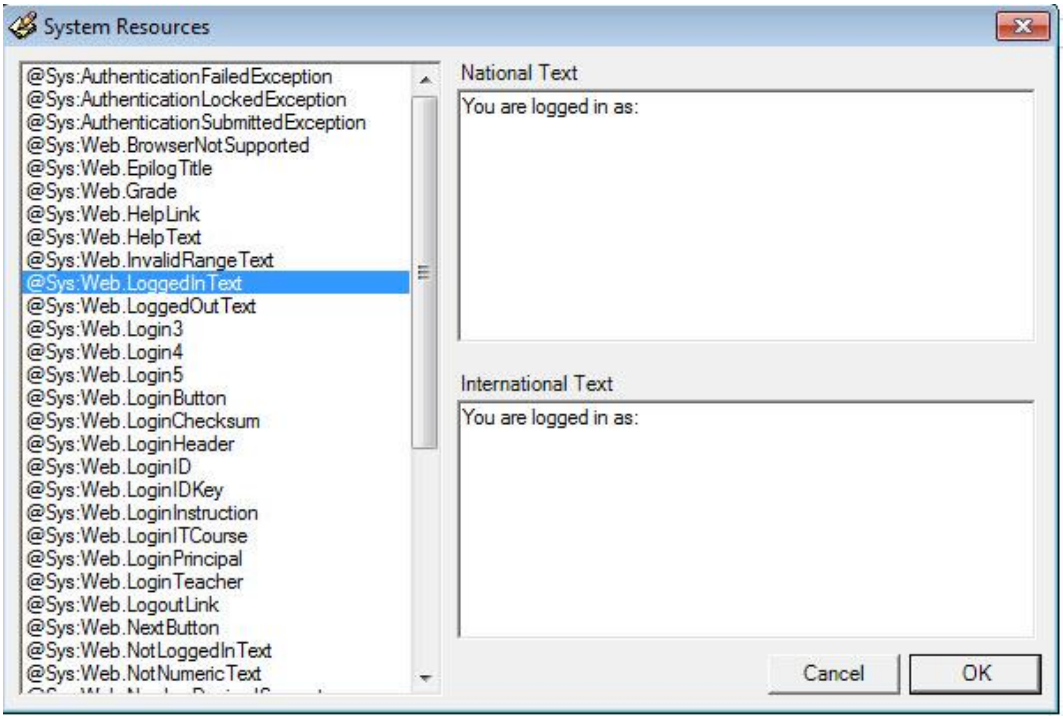


Figure 3-23: The System Resources window

220. Now simply click on each resource and enter the translated text. The meaning of the labels should be self-explanatory or easily guessable using the English texts.

221. Please check the web application (integrated preview) if your translations of the system resources make sense in the context of the information around it. For example, the '@Sys.Web.LoggedInText' has a trailing colon (:) that goes in front of the current respondent's ID.

222. You must make sure that you translate all passages which have an international text here. Various buttons or other parts of the web application will have blank sections. System resources without an international text are not used for TALIS 2013 and don't need to be translated.

223. For the resource '@Sys.Web.HelpText', you should enter contact information for respondents who have questions or problems when trying to fill in the online questionnaire. Respondents will see this text when they click on the "Help" link. It is advisable to repeat your national centre contact information here.

3.9.10 Copy All Resources

224. The IEA DPC requires all countries to translate the international questionnaires even if the national base language is the same. The international language used for all present and future TALIS questionnaire and instruments is either English (en) with UK spelling or French (fr). Please note that these variants of English or French are **culturally neutral** and need to be adapted to the national context of a language, for example English in Australia (en-AU).

225. However, if you are using a variant of English, you are not forced to copy all passages in the survey definition files one by one. The *IEA Online SurveySystem Designer* allows you to copy all internationally-defined passages (including categories and system resources) to the national text fields in one go.

226. To do so, select the **Copy all resources** entry from the **Survey** menu, then you will be asked if you want to overwrite any existing national texts with the international version. If you select **Yes**, then all passages will be copied and both versions will be 100% the same, but you will lose any translations you already made. If you select **No**, only those passages that still require translation will be copied over and the translations you already made will remain.

Please Note!

Because this feature is only meaningful and relevant for English-speaking countries, please be careful with this feature. It may overwrite your work!

3.9.11 Copy all Numeral Resources

227. Furthermore all countries, independent of language, can use the **Copy all Numeral Resources** from the Survey menu. This will automatically copy over any international numeral (such as question numbers or dimension letters) to the national numerals.

228. You will be asked if you want to overwrite any existing national texts with the international version. If you select **Yes**, all numerals will be overwritten according to the international scheme. If you select **No**, only those numerals that still require translation are copied over; existing translations are retained.

229. This feature is useful for all countries, since it copies all numerals and saves a lot of manual translation/copying time. However, be aware that you may have to adapt the numerals if you make structural modifications, for example if you remove a question or insert new dimensions. In this case, you will need to adapt the following numerals to reflect the change.

3.10 Resource Editor

230. You can use the Resource Editor to insert your translations. You can access it using the **Resource Editor** option in the **Survey** menu.

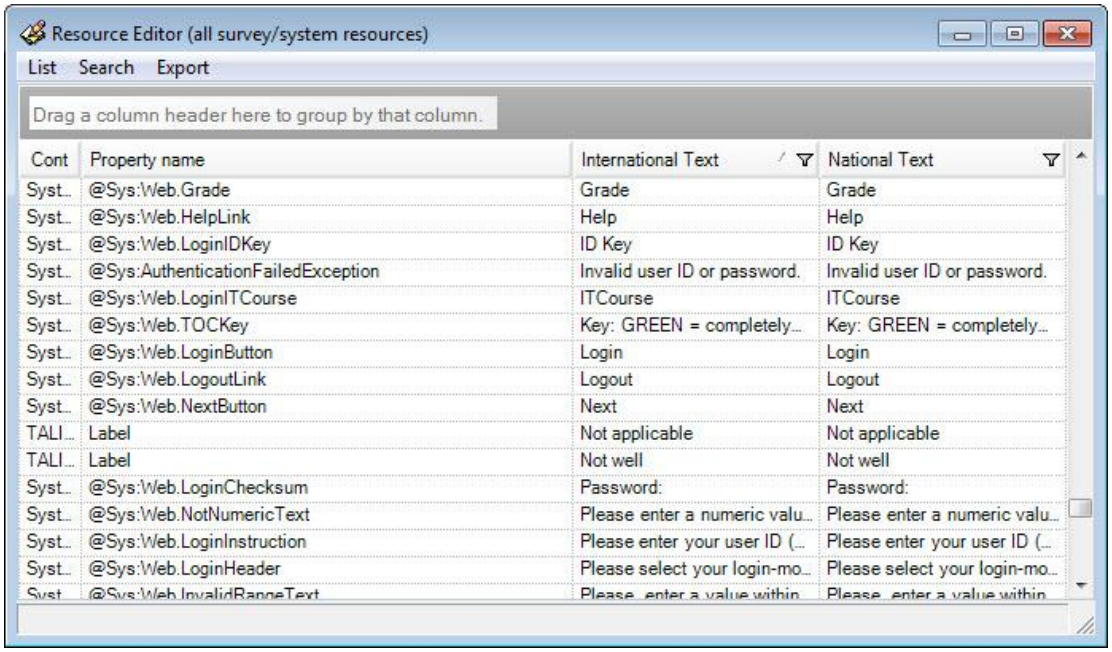
3.10.1 The List Menu

231. Once the Resource Editor is open, you can select the **List** menu. From the list menu you have the possibility to select:

- **ALL**: This option opens all elements to be translated.
- **Survey**: This option opens elements of the school and teacher questionnaires that need to be translated.
- **System**: This option opens elements which need translation and are specific to the online administration of the questionnaires (such as the **Next** button). These elements are called System Resources.

232. After having selected one of the options in the List menu, the Resource Editor consists of four columns:

- **Context** contains information on the element to be translated, such as the questionnaire type, questionnaire section, and question location.
- **Property Name** contains information on the property to be translated.
- **International Text** contains the text of the international questionnaires in the English language as contained in the international resource files.
- **National Text** is blank, as this is the column where you will need to insert your translations.



Cont	Property name	International Text	National Text
Syst...	@Sys:Web.Grade	Grade	Grade
Syst...	@Sys:Web.HelpLink	Help	Help
Syst...	@Sys:Web.LoginIDKey	ID Key	ID Key
Syst...	@Sys:AuthenticationFailedException	Invalid user ID or password.	Invalid user ID or password.
Syst...	@Sys:Web.LoginITCourse	ITCourse	ITCourse
Syst...	@Sys:Web.TOCKey	Key: GREEN = completely...	Key: GREEN = completely...
Syst...	@Sys:Web.LoginButton	Login	Login
Syst...	@Sys:Web.LogoutLink	Logout	Logout
Syst...	@Sys:Web.NextButton	Next	Next
TALI...	Label	Not applicable	Not applicable
TALI...	Label	Not well	Not well
Syst...	@Sys:Web.LoginChecksum	Password:	Password:
Syst...	@Sys:Web.NotNumericText	Please enter a numeric valu...	Please enter a numeric valu...
Syst...	@Sys:Web.LoginInstruction	Please enter your user ID (...	Please enter your user ID (...
Syst...	@Sys:Web.LoginHeader	Please select your login-mo...	Please select your login-mo...
Syst...	@Sys:Web.InvalidRangeText	Please, enter a value within	Please, enter a value within

Figure 3-24: Resource Editor

233. By default, the elements in the Resource Editor will be sorted according to their question location. To insert your translations you should enter your text into the appropriate National Text cell.

234. Additionally, the Resource Editor provides sorting features to facilitate work for translators. The horizontal order of the columns can be modified by simply clicking on the heading, keeping the left mouse button pressed and dragging the column to the preferred position.

235. The order of the items within columns can be sorted alphabetically by clicking the up/down arrows to be found in the header of each column. By default the Resource Editor is sorted ascending by ‘Context’.

236. Within the columns of the national and the international text, a filter can be activated by clicking on the symbol on the particular header. Available default filter categories are ‘All’, ‘Custom’, ‘Blanks’ and ‘Non-Blanks’, as well as all actual text entries.

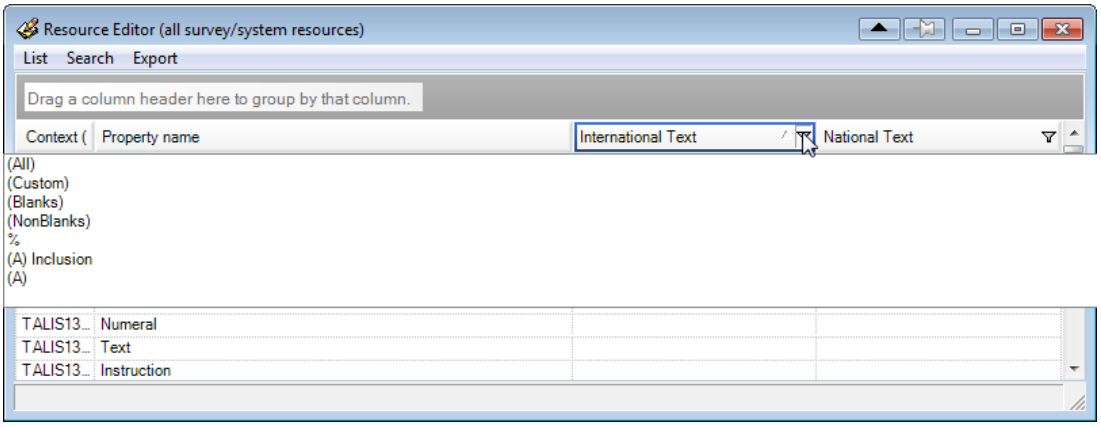


Figure 3-25: Resource Editor Filter mode

237. On top of this, choosing the filter category 'Custom' allows for individual filter conditions. Only resources that apply to specified conditions will be displayed. For instance, selecting the operator '= Equals' and the operand 'national text' in the given example filters for resources having an equal international and national text.

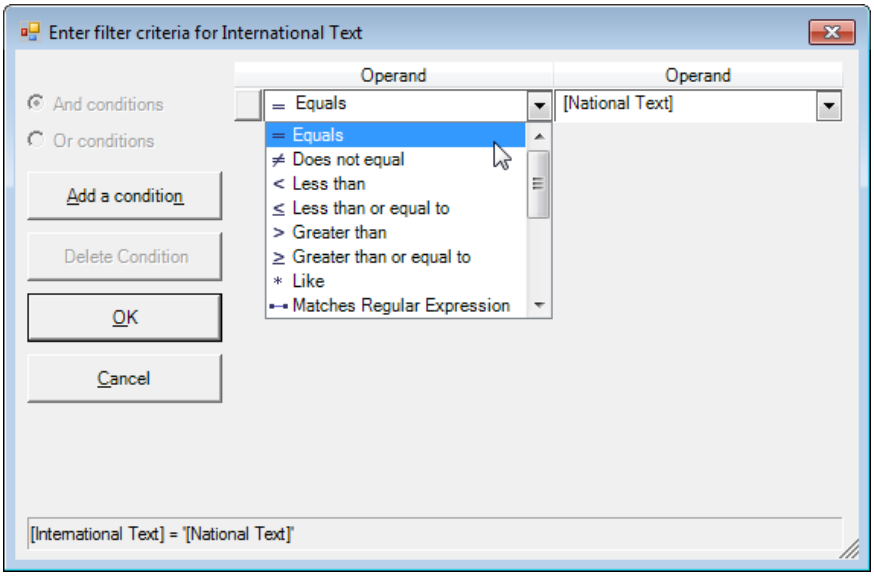


Figure 3-26: Resource Editor custom filter mode

238. Furthermore, texts can be grouped by the categories of the columns. In order to do so the column header has to be dragged into the designated field. Having done this the labels of the dragged columns are shown as a list. To expand the information on this item the plus-sign has to be pressed. It is possible to drag one or more additional columns in order to group by several levels (*e.g.* first group by context and then by property name). The following example (Figure 3-27) shows Survey Resources grouped by Property Name and within this category the property 'Title' is expanded:

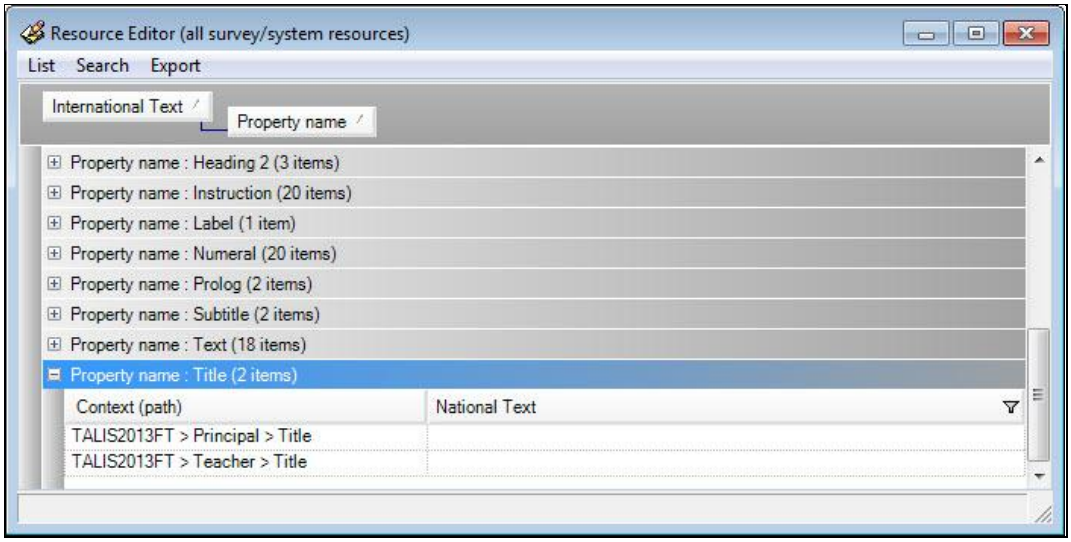


Figure 3-27: Resource Editor sorting mode

239. Furthermore it is possible to mark one or more cells at a time within the columns of the Resource Editor. To do so you have to click a cell and drag with the mouse to select multiple cells. Thus you are able to copy and paste whole blocks at once. This will be especially useful in connection with the option of creating an export to Excel from the Resource Editor.

240. Having created the Excel file you can sort it in the applicable way and copy over the translated block into the Resource Editor of the new application.

241. Please note that you can check your translations using the integrated web preview at any time.

3.10.2 Search Menu

242. The new search menu within the Resource Editor will help the user to find and translate resources more easily.

243. The **Search** menu contains three options:

- **Find**
- **Find and Replace**
- **Find and Translate**

244. The option **Find** enables the user to look for texts that have already been used in the National Text column. To do so you have to select the option **Find** from the **Search** menu. A dialogue with a text field named 'Find' will open up. The respective text has to be entered into this field. You should then select the **Find Next** button and the application will mark the next entry where this text appears.

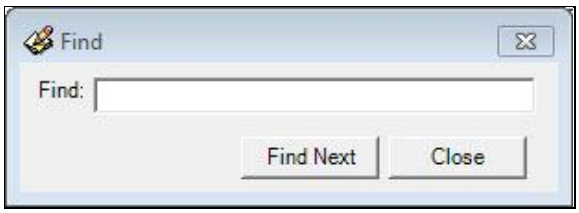


Figure 3-28: Finding text

245. The feature 'Find and Replace' can simplify the modification of resources as it enables the user to find existing text and to replace it with new text within the National Text column. Selecting the

item **Find and Replace** from the **Search** menu, a dialogue will open up. In order to replace an existing text you should fill the text field 'Find' and type the replacement into the field 'Replace with'. Then there are two ways to carry out the replacement process. One option is to press **Replace** and thus go to, and replace, the next entry containing the searched text. In order to substitute further entries you have to press **Replace** again. When the system has reached the last entry, a message will be displayed telling the user that there are no further instances.

246. The other option is to select the button **Replace all** which will substitute all instances that are found. After completion the application will display a message informing you how many instances have been replaced. The Manager and the Translator roles only allow editing of the national texts.

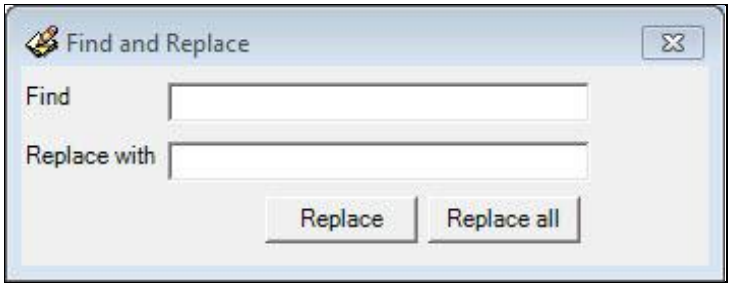


Figure 3-29: Finding and replacing text

247. The third option is **Find and Translate** which enables the user to translate international texts more easily. The application searches through the International Texts and places the respective translation given by the user into the National Text column. In order to use this function, the respective option has to be selected and a new dialogue will open up. In the dialogue window you can find an international text field, and a field in which to enter the respective translation. By pressing **Translate**, the next item in the International column which exactly matches the text given, will have the translation inserted in the respective National Text field. The process can be repeated for further texts by pressing the **Translate** button again. The system will display a message when the last instance is reached or if no matching entry could be found. If national texts already exist in the respective National Text fields, the application will ask whether to overwrite these.

248. In order to translate all international texts that match the selection, you should select the button **Translate all**. On doing this, the system will seek through the International columns and translate all texts matching the content of the field 'International text' and replace it with the content of the 'Translate to' text field. If there are already existing translations in the corresponding National Text column, the application will ask you whether the existing text should be replaced. After having finished this process a message will be displayed saying how many entries have been found and translated.

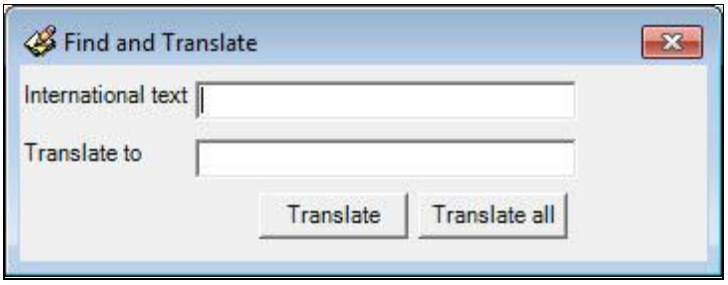


Figure 3-30: Finding and translating text

3.11 Export to Excel

249. This feature enables you to export the grid of the Resource Editor to Excel. This feature will be very useful for the Main Study, as it will make it possible to reuse your Field Trial translations for

the Main Study. You can also use this feature for the Field Trial, if you prefer to enter your translations in Excel, rather than the Resource editor.

250. To do so, you will have to start the export by selecting the option under the **Export** menu **Export xml to Excel**. The application will perform an export of the existing resources and create a file with the same content and structure. This file will be saved in the Export directory in the application's installation path.

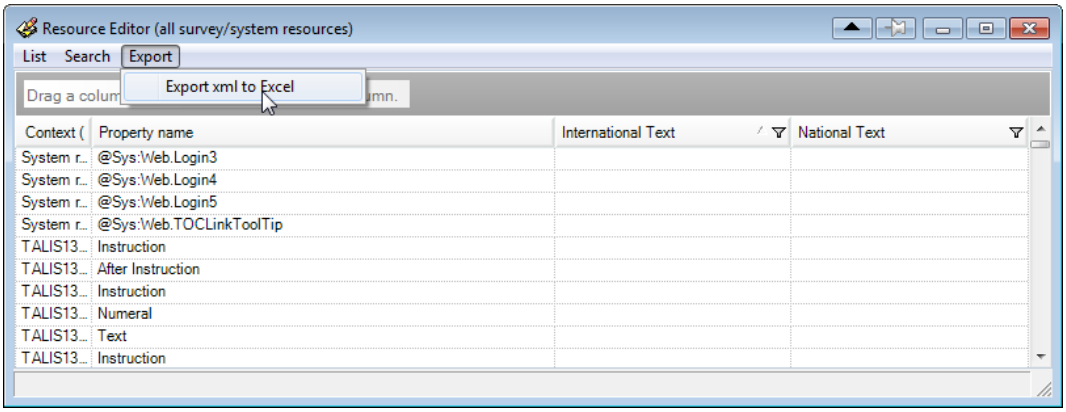


Figure 3-31: Export to Excel

251. The application will export all the content within the Resource Editor to an Excel file with the same structure and display the saved file location after the export process has successfully finished with a message.

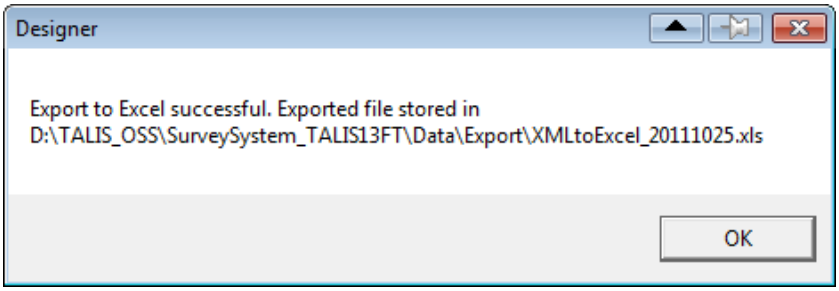


Figure 3-32: Successful export message

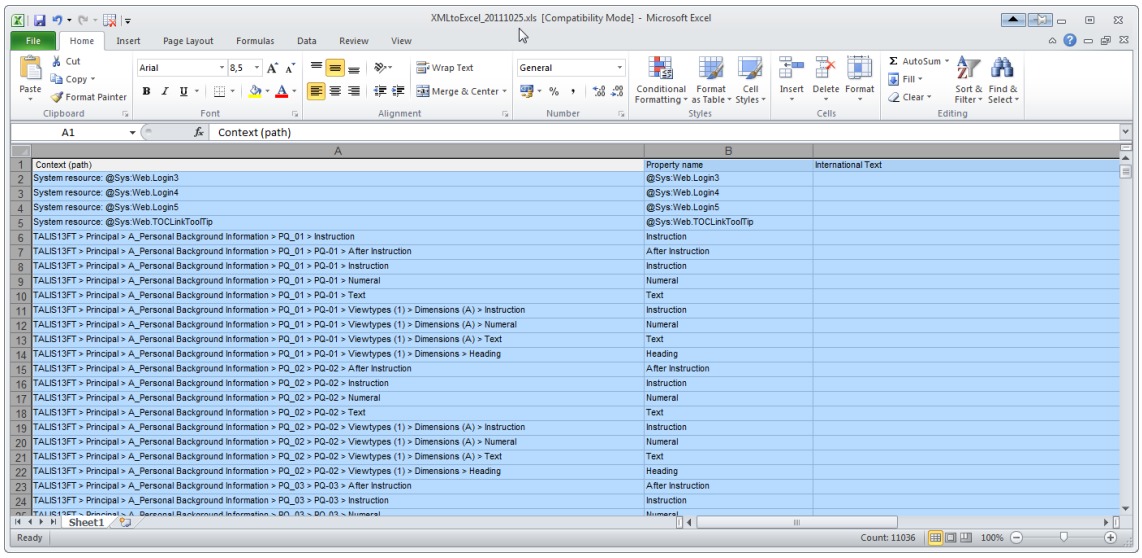


Figure 3-33: Exported resources in Excel

252. After completing insertion of national text for all resources, you can paste these translations in a whole block to the National Text fields in the Resource Editor. Check that the exported resources within the Excel sheet are sorted identically to the resources in the Resource Editor before you start copying blocks.

3.12 Reusing your TALIS 2013 FT translations

New

253. To reuse your translation of the TALIS 2013 Field Trial questionnaires you need to export both the TALIS 2013 FT online resources and the TALIS 2013 MS online resources to Excel (see section 3.11). You will see, that the column "National Text" is completely empty in the excel sheet created by the TALIS 2013 MS export and filled for the TALIS 2013 FT export.

TALIS 2013 FT resources

Context (pa	Property na	International Text	National Text
TALIS13FT_	Text	<ISCED Level 1>	Primary (ages 5-11)
TALIS13FT_	Text	<ISCED Level 1>	Primary (ages 5-11)
TALIS13FT_	Text	<ISCED Level 2>	Key Stage 3 (ages 11-14)
TALIS13FT_	Text	<ISCED Level 2>	Key Stage 3 (ages 11-14)

TALIS 2013 MS resources

Context (pa	Property na	International Text	National Text
TALIS13MS_	Text	<ISCED Level 1>	
TALIS13MS_	Text	<ISCED Level 1>	
TALIS13MS_	Text	<ISCED Level 2>	
TALIS13MS_	Text	<ISCED Level 2>	

Figure 3-34: Exported Field Trial and Main Study resources in Excel

254. You can now copy your translations of the international text from the FT to the cells where the international text matches.

255. With copy you can mark as many cells as you want in the excel sheet and paste them into the Resource Editor. Make sure that the sorting in the Excel list is the same as the sorting in the resource editor before copying you bulk of translations to the Resource Editor.

256. After completing this step, you need to translate the remaining international text elements that changed for the Main Study.

3.13 Check All Resources

257. To check you have converted every text, open the **Survey** menu and select **Check all Resources**.

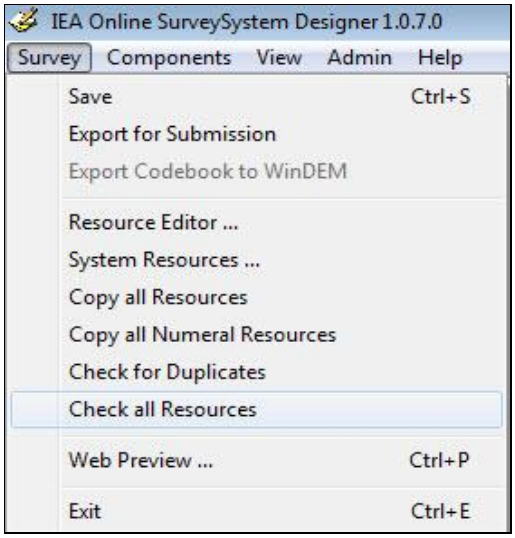


Figure 3-35: Checking all resources

258. In the missing resources window the hierarchical location of every missing conversion is given. In the example below, seven resources (other than the system resources) are missing. You can see that these relate to question 1 of the Teacher Questionnaire, which has not yet been translated.

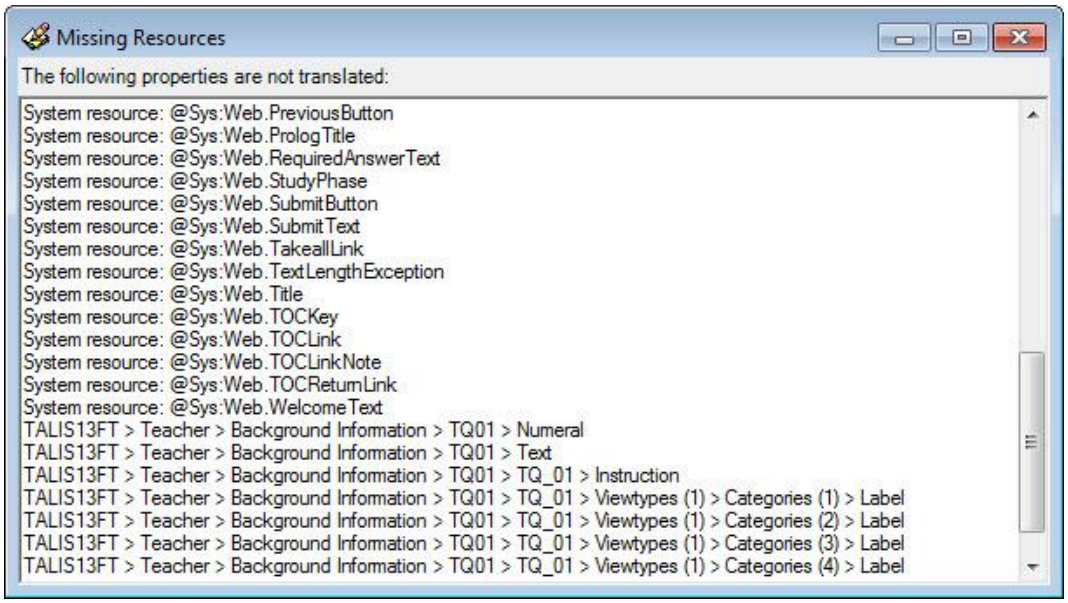


Figure 3-36: Example result of checking all resources

3.14 Export for submission

259. After conversion, you need to send your converted questionnaire files to the IEA DPC. Before doing so, please check again that you have converted all required passages, including all category labels and system resources, using the **Check all Resources** function. To export the definition files, which contain the conversions, choose **Export for Submission** from the **Survey** menu. This menu item is active only if you select the survey node (top level) in the tree-view.

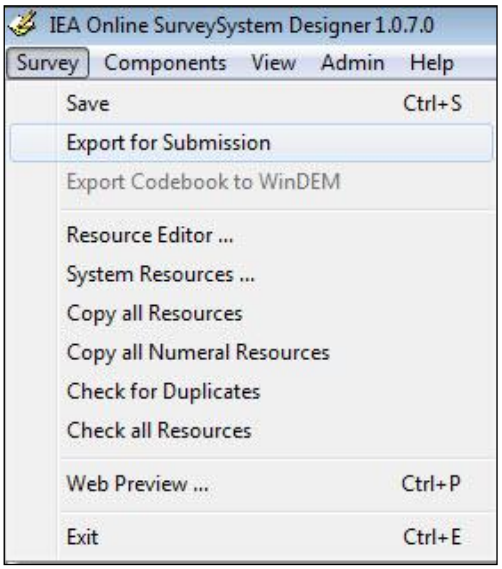


Figure 3-37: Exporting the resources for submission

260. If you have not made all conversions, you will be warned and the export of the conversions will abort.

261. When all resources have been translated, a zip-file, including all files contained in the "..*Data\resources*" sub-folder of your installation will be created with the survey's name and your culture (*e.g.*, "TALIS13_MS en-AU.zip"). The confirmation message box will also display the location of that file. On English language systems this would be:

- *<user defined data directory>\\SurveySystem_TALIS13_MS_ISCED2\Data\export*

262. This zip-file should be sent to the IEA DPC according to your agreed administration schedule.

263. According to Standard 8.1, on-line instruments have to be structurally equivalent and linguistically identical to the paper instruments. All adaptations and extensions made for the paper version have to be reflected in the on-line instruments as well.

3.15 ODC verification at the IEA DPC

264. Following your submission, the IEA DPC will review your files and compare them to the final paper instruments for your country received earlier. Any deviations will be reported back to you and the IEA DPC will indicate where additional actions are required from the national centre side, *e.g.* corrections.

265. Please allow up to 5 working days to complete this process, including the required communication and re-verification at the International Study Centre.

266. Once the ODC verification has been completed, the IEA DPC will send you a confirmation including the login details to the monitor site.

Please Note!

You are advised NOT to begin administration before you have received this confirmation message.

3.16 Accessing the live web application

267. For the preview system as well as the live system, you can use the dummy IDs provided in Annex C .

268. For the Main Study, you will provide the School Coordinator of any school that has been selected for online participation with cover letters for each respondent, similar to the first two pages of the questionnaires. These cover letters will include the internet address (URL) and access credentials that have been assigned to the respondent by WinW3S.

269. The internet address will consist of a general part and a country/language specific part. For instance, a school principal in Germany may receive the following information:

- An internet address such as: **http://www.talis-odc.net/ISCED2/10315**
  The '**http://www.talis-odc.net/ISCED2**' address is the same for all participating countries of the international ISCED 2 option. '10315' is a numeric representation for German in Germany together with a single checksum digit (5 in this case). Please refer to Annex B for the details specific to your country.

- A user id such as: **9301** (IDSCHOOL in WinW3S = 4 digit for principals) or **930101** (IDTEACH in WinW3S = 6 digits for teachers).

- An up to 3-digit password (checksum) such as: **999**, which has been generated by WinW3S.

- The reason for using a numerical address is threefold: (1) to avoid the need to assign very long globally-unique IDs to respondents, (2) to prevent respondents from tampering with the web application by guessing other languages *etc*., and (3) to avoid errors due to the file name case-sensitivity of UNIX-based web servers. The one-digit checksum should avoid simple mispunches between, for instance, English (1033) and German (1031).

270. The internet address for the online questionnaires will be:

- ISCED 1: **http://www.talis-odc.net/ISCED1/<LCID> +checksum digit**

- ISCED 2: **http://www.talis-odc.net/ISCED2/<LCID>+checksum digit**

- ISCED 3: **http://www.talis-odc.net/ISCED3/<LCID>+checksum digit**

- TALIS–PISA link : **http://www.talis-odc.net/PISA/<LCID> +checksum digit**

  and: **http://www.talis-odc.net/MTM/<LCID>+checksum digit**

Please Note!

Because "checksum" and "password" can be used interchangeably and "User ID" refers to both the "School ID" and "Teacher ID" printed on the WinW3S labels, you should make sure that the terminology that you use on the translated school and teacher labels and the ODC cover letters is consistent with the system resources you use in the web version (most importantly: @Sys:Web.LoginInstruction and @Sys:Web.LoginID).

271. You should provide respondents with contact information for questions or problems arising when they try to fill in the online questionnaire. In the lower left-hand corner of the online questionnaire window a **Help** link directs to a system resource, where this contact information should be given (see 3.9.9).

3.17 Accessing the monitor application to track participation

272. The monitor application gives you real-time access to the current status of online participation for your culture(s) grouped by school. Keep in mind that the monitor will only list those questionnaire responses if respondents have logged in to the system for that questionnaire at least once. The system will not provide information on respondents who have NOT logged on yet. This is information that you would have to take from the WinW3S database and/or the Teacher Tracking Forms.

273. The monitor application will be available from the following URL:

- ISCED 1: **http://www.talis-odc.net/ISCED1/monitor**
- ISCED 2: **http://www.talis-odc.net/ISCED2/monitor**
- ISCED 3: **http://www.talis-odc.net/ISCED3/monitor**
- TALIS – PISA link: **http://www.talis-odc.net/PISA/monitor**

  and: **http://www.talis-odc.net/MTM/monitor**

274. The information displayed in the overview screen of the monitor will include for each respondent:

- the number of logins
- the date and time of the first and last login
- the submission status (whether the respondent clicked the submit/finish button)
- the current question number
- the browser make, version and screen resolution.
- a status string that lists the completion status for each individual question (*e.g.* not viewed, viewed only, completed).

275. Hyperlinks for each questionnaire will take you to a detailed view of all entered responses.

276. The monitor will also allow you to highlight and filter for the latest activities, *e.g.*, all completed questionnaires in the last three days. Please note that for security reasons it will be necessary to enter passwords on two login levels. The IEA DPC will provide you with the correct passwords for your culture(s) once the online survey has been uploaded and activated.

3.18 Exporting participation status from monitor application for use in WinW3S

277. Within the Monitor Application, you will be able to export the participation status of schools and teachers for further use with the WinW3S software.

278. To use this feature, please follow the simple instructions, which will be displayed on the monitor overview page after login. As a result, you will receive a Microsoft Excel formatted file that can be used to import the participation status directly into WinW3S. For further information on how to manage the import technically in WinW3S, please refer to chapter 2.12.3.

Please Note!

If you are administering the TALIS-PISA link, you will need to export the participation status from both the PISA and the MTM monitors. Both files should be imported into WinW3S.

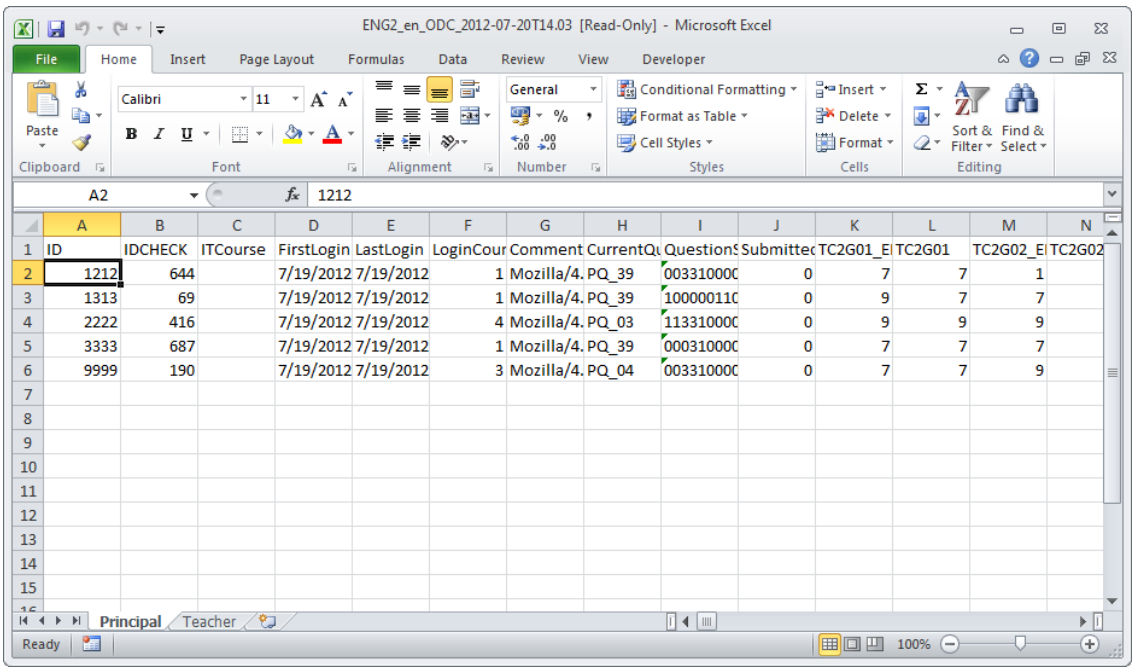
3.19 Exporting raw data from the Monitor

New

279. Once the survey has started, you can view respondent's raw data from the SurveySystem. To do this, you need to use the export function from the monitor application.

Figure 3-38: Export Raw Data button in the Monitor

280. This export will produce an export file with one sheet per questionnaire that includes a record for each person that logged into the online questionnaires.



	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	ID	IDCHECK	ITCourse	FirstLogin	LastLogin	LoginCour	Comment	CurrentQu	Questions	Submittec	TC2G01_E	TC2G01	TC2G02_E	TC2G02
2	1212	644		7/19/2012	7/19/2012	1	Mozilla/4.	PQ_39	003310000	0	7	7	1	
3	1313	69		7/19/2012	7/19/2012	1	Mozilla/4.	PQ_39	100000110	0	9	7	7	
4	2222	416		7/19/2012	7/19/2012	4	Mozilla/4.	PQ_03	113310000	0	9	9	9	
5	3333	687		7/19/2012	7/19/2012	1	Mozilla/4.	PQ_39	000310000	0	7	7	7	
6	9999	190		7/19/2012	7/19/2012	3	Mozilla/4.	PQ_04	003310000	0	7	7	9	

Figure 3-39: Raw data export

Please note!

DO NOT import this raw data to the DME database. This export function is only meant for your convenience, you do not need to further process it!

3.20 Implement national adaptations

281. Besides transferring the translations from your questionnaires on paper to your online questionnaires, you will need to implement all national adaptations that you have introduced to your paper questionnaires. Please keep in mind that your questionnaires on paper and your online questionnaires have to be the same. If you decided not to ask a specific question in your questionnaires on paper, you will need to remove the question for the online questions, too. In the online context we do not talk about removal, but of disabling. If you decided to ask an additional national question in your paper questionnaires, you will have to add this question in the online questionnaires. This section describes the most often used national adaptations.

3.20.1 Not administering an entire questionnaire

282. You can disable an entire questionnaire if you decided to administer the Principal Questionnaire or the Teacher Questionnaire on paper only. In this case no translations will be required for the non-administered questionnaire.

283. If you want to disable an entire questionnaire you have to:

- Select the questionnaire you want to disable in the Component Tree.
- Change the property labelled ‘Enabled’ in the property grid (on the right-hand part of the screen) from ‘True’ to ‘False’. This will hide the questionnaire from the web application from now on.

3.20.2 Not administering questions or dimensions

284. If one or more questions are not applicable in your country, it is possible to disable them from your online questionnaires. Those questions will not be displayed to respondents when administering the questionnaires online.

285. To disable a question you will have to:

- Select the question you want to disable in the Component Tree.
- Change the property ‘Enabled’ in the property grid (on the right part of the screen) from ‘True’ to ‘False’ for this specific question. The question will be hidden from the web application and the table of contents.
- Adapt the numerals on question level for all subsequent questions.

286. If you want to disable one or more specific dimensions of a question you will have to:

- Browse to the question part that you want to disable.
- Identify and expand the desired dimension within it.
- Change the property of the dimension ‘Enabled’ in the property grid (on the right part of the screen) from ‘True’ to ‘False’. The dimension will be hidden from the web application and the table of contents.

3.20.3 Adding national questions

287. To add a national question you should select **Add Question …** from the **Components** menu:

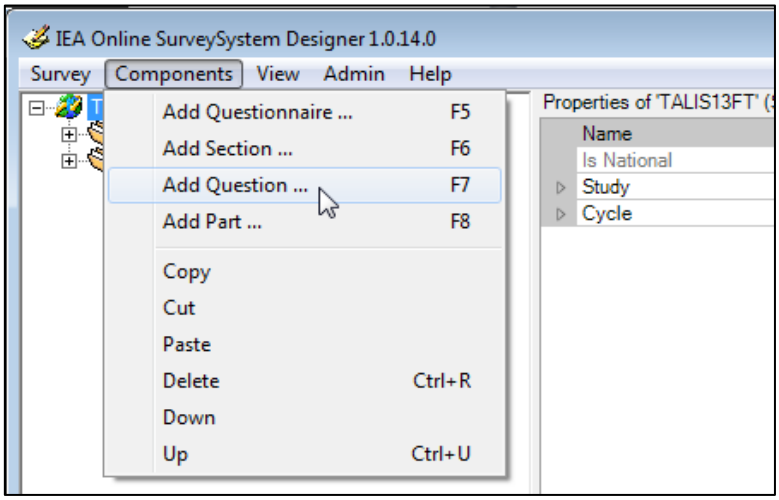


Figure 3-40: Components Menu: "Add Question ..."

288. Where the new question will be situated within the questionnaire depends on the level activated in the tree view when selecting the **Add Question …** option. For instance, activating a section will position the new question behind the last existing question in that section. If this is not the desired position, the question can be shifted up and down by activating the Components Menu again and choosing the respective option. Adding a question while a question is activated in the tree view will create the new question right behind the currently selected one. The behaviour when adding other Components is analogous.

289. It is also possible to delete, cut or paste national questions (or question parts) from the Components menu.

- Create a Question Part for the newly created Question by selecting **Add Part …** from the Components menu in the tool bar.

- Open the Viewtype Editor and select the appropriate viewtype for the given question. The Viewtype Editor is accessible from the [...] button in the property grid on the right hand side of the main window. This is illustrated in the figure below:

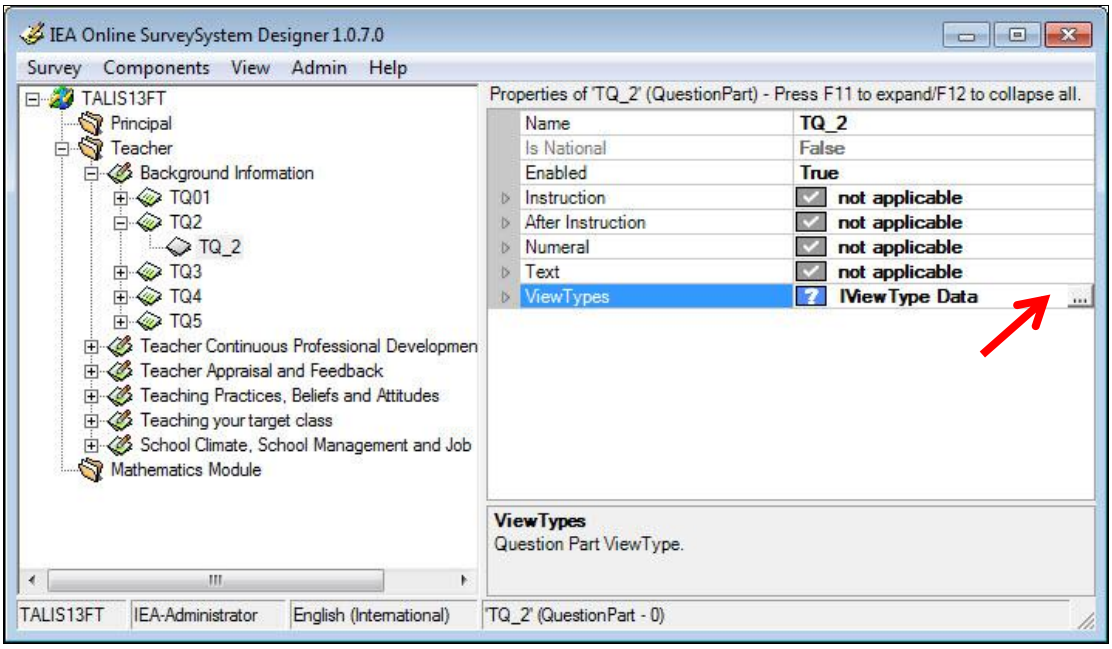


Figure 3-41: Accessing the Viewtype Editor

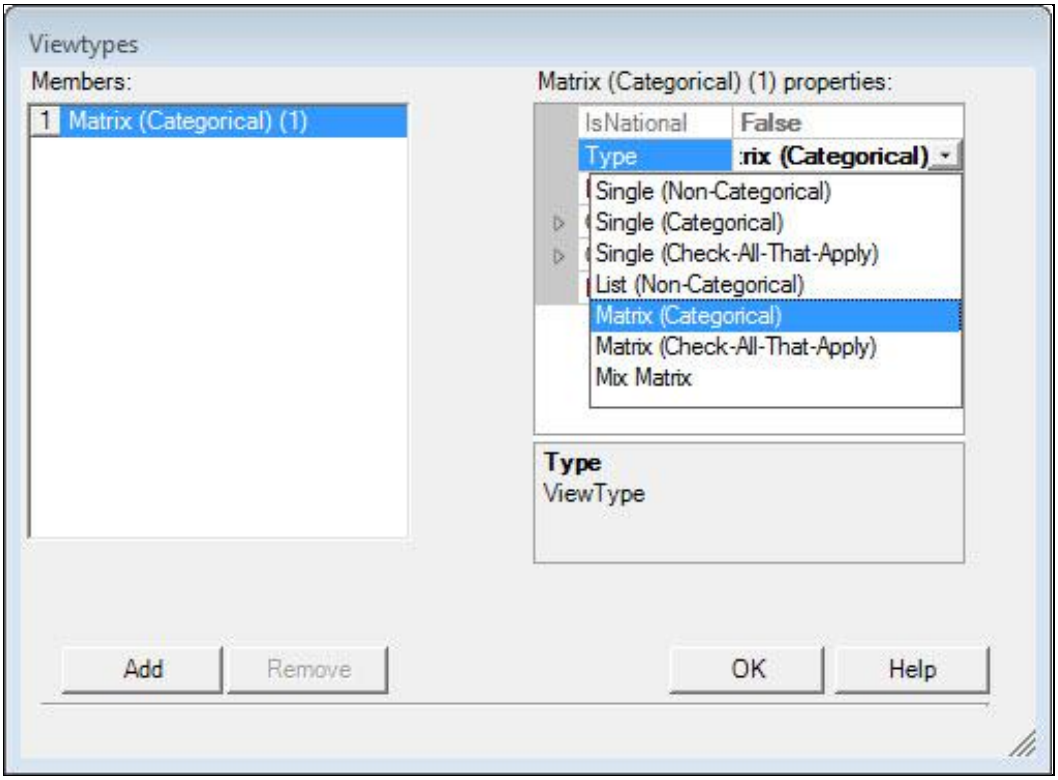


Figure 3-42: Viewtype Editor

- Define categories and dimensions, if applicable:

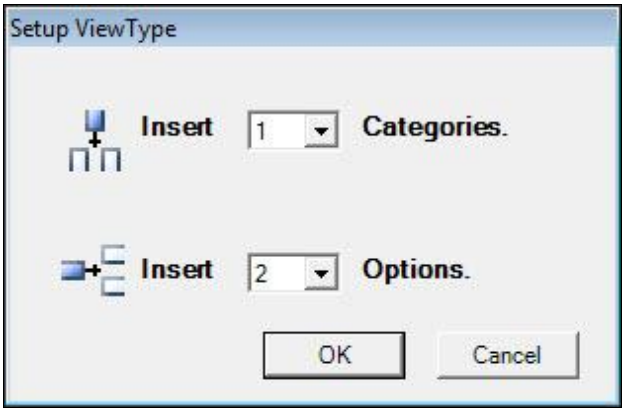


Figure 3-43: Editing categories and dimensions

- Insert all necessary information for the question including numerals, texts, and instructions.
- Define the Variable Name for the variable(s). These should be consistent with the international naming scheme.
- Adapt the numerals on question level for all following questions.

3.20.4 Adding national dimensions

290. To add a national dimension you will have to:

- Browse to the question part of interest.
- Open the Dimensions Editor from the Dimensions Data row as illustrated in (Figure 3-44).

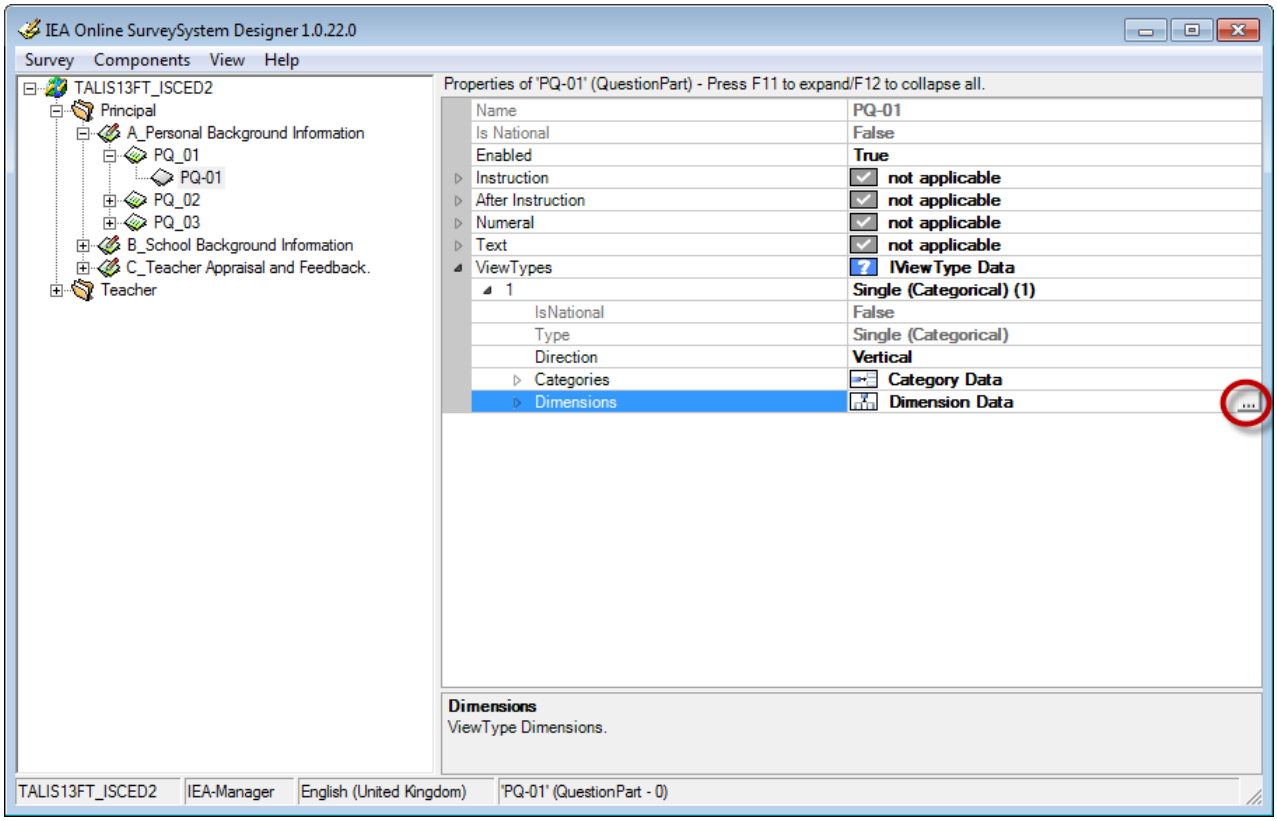


Figure 3-44: Accessing the Dimensions Editor

- If you press the button, a separate window will open. On the left-hand side you can click through all available dimensions. The properties of the currently selected dimension are displayed on the right-hand side of the window. Press the **Add** button to add one or more nationally-defined dimensions.

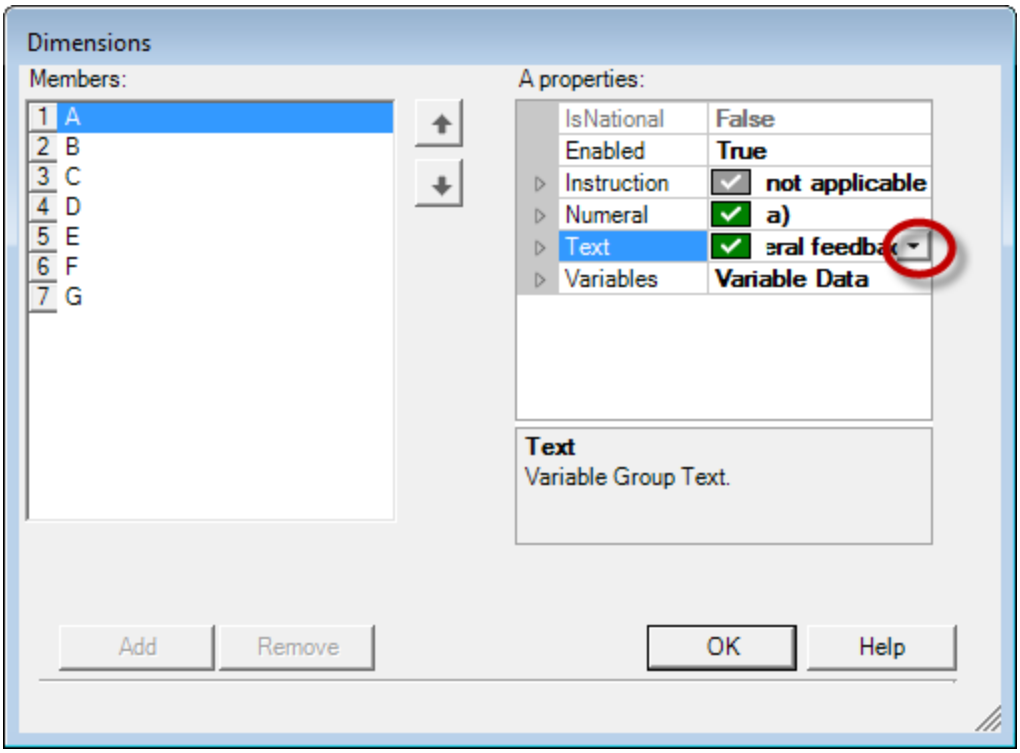


Figure 3-45: Dimensions Editor

- Insert all necessary information for the dimension, including your national numerals, texts,and instructions. To view and edit the content of dimension instructions, numerals, texts,and variable properties within this editor, click on the arrow next to the property of interest. A window as shown below will appear:

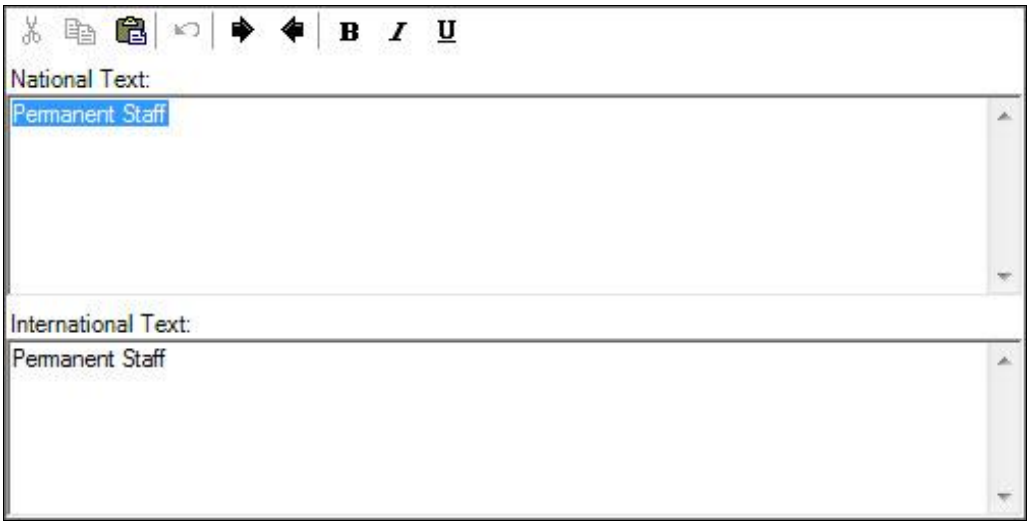


Figure 3-46: Editing with the Dimensions Editor

- Define the variable name for the variable(s). These should be consistent with the international naming scheme.

- You can move the added dimension(s) to another location within that question part by using the arrow buttons.

- Close the editor. If you moved the dimension to another location the order and the naming of the dimensions will automatically be adapted after the editor is closed.

- Adapt the numerals on question level for all following questions.

3.20.5 Adding national categories to mark-all-that-apply questions

New

291. To add a national category to a mark-all-that-apply question you will have to:

- Browse to the question part of interest.

- Open the Category Editor from the Category Data row as illustrated below.

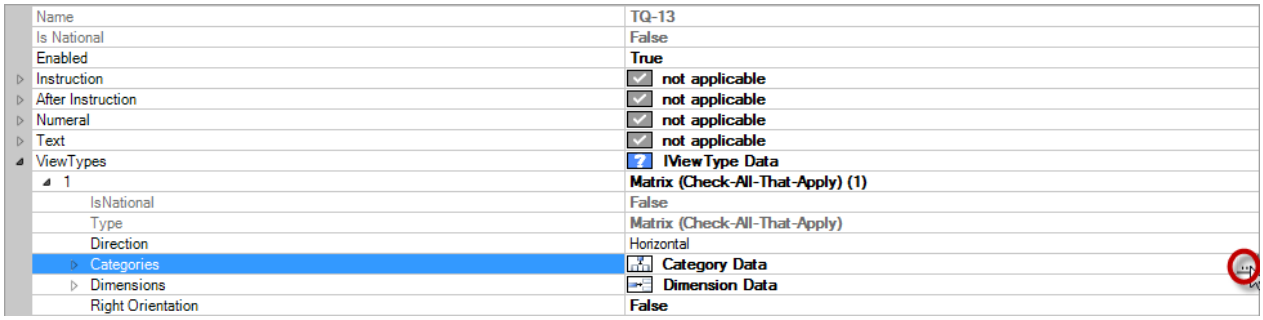


Figure 3-47: Accessing the Category Editor

- Add additional categories by selecting the ‘ADD’ button and edit the category lable. National categories can be deleted in the category editor, international categories can not be removed.

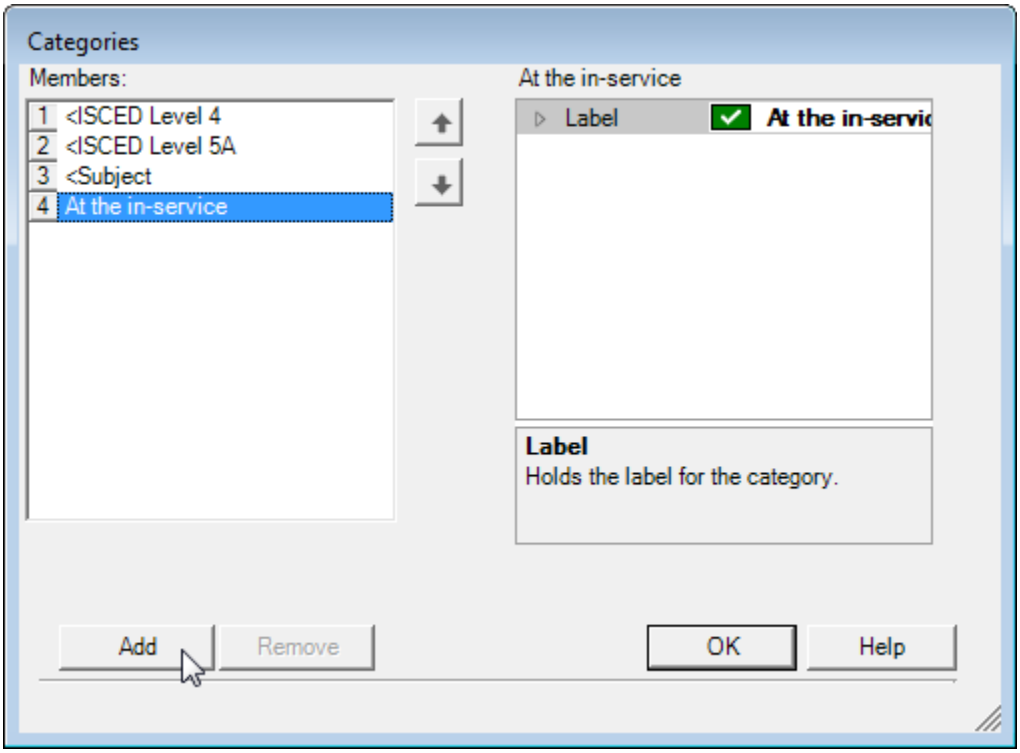


Figure 3-48: Adding with the Category Editor

3.20.6 Adding national sections

292. If need be, you are able to create completely new national sections. To do so, select **Add Section …** from the **Components** menu in the tool bar. This may be needed if whole national sections have been appended to the paper questionnaires and you need to reflect this in the online system. As for other national components, these sections will be flagged as (National) in the Tree-View of the Designer and you will be able to move them 'up' or 'down' to their desired position in the questionnaire, as well as delete them if needed.

3.20.7 Copying sections, questions or question parts

293. In order to apply structural changes to the questionnaires, it is also possible to use the given international components as a template. The functionality can be used to copy:

- Sections
- Questions
- Question Parts

294. In order to copy and paste a component the respective node has to be marked by clicking on it.

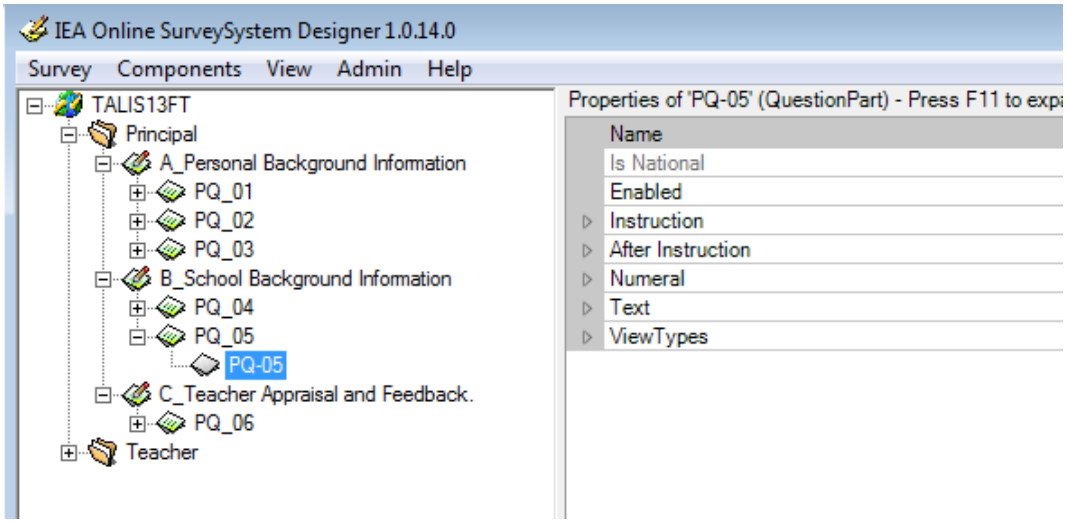


Figure 3-49: Marking the question part which should be copied

295. Having marked the components the option **Copy** has to be selected from the **Components** menu.

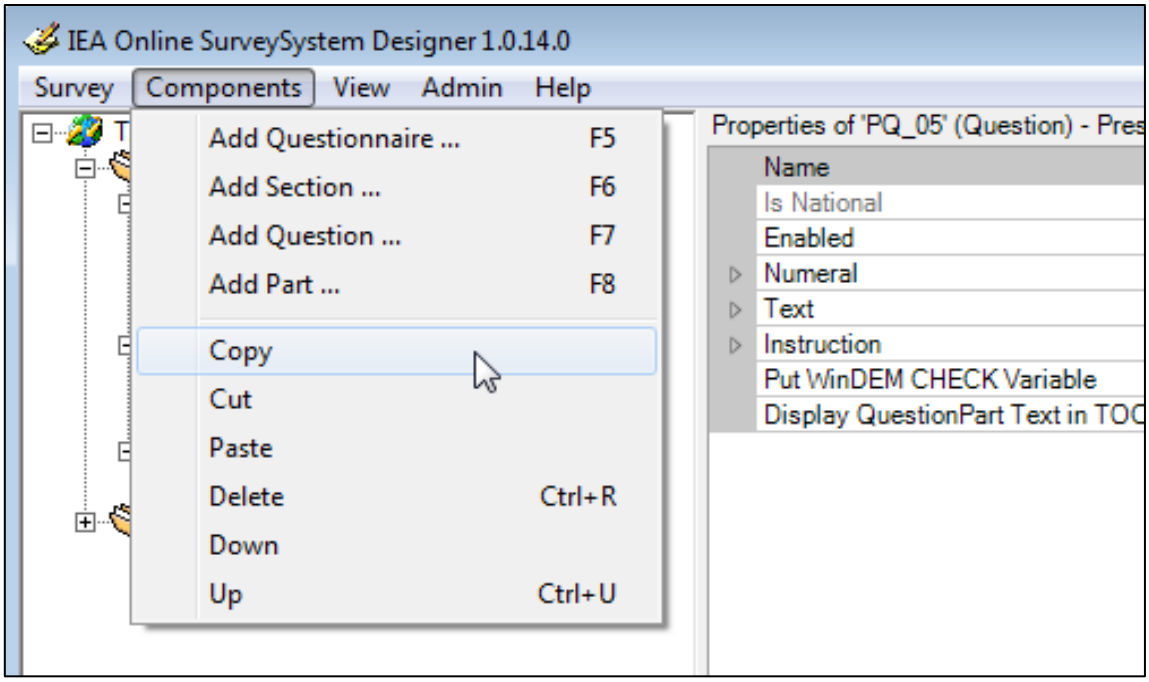


Figure 3-50: Selecting copy from the components menu

296. Next, the location where the new component is supposed to appear has to be selected. Here it is necessary to mark the super-ordinated node. In the case of a question part this would be the question.

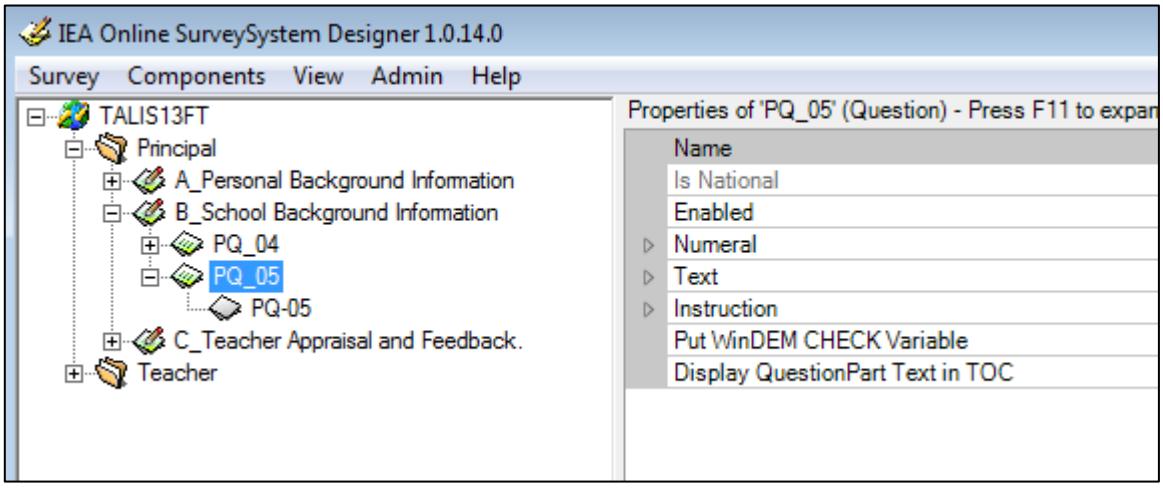


Figure 3-51: Marking the question to which the question part should be copied

297. Then the user has to select the option **Paste**.

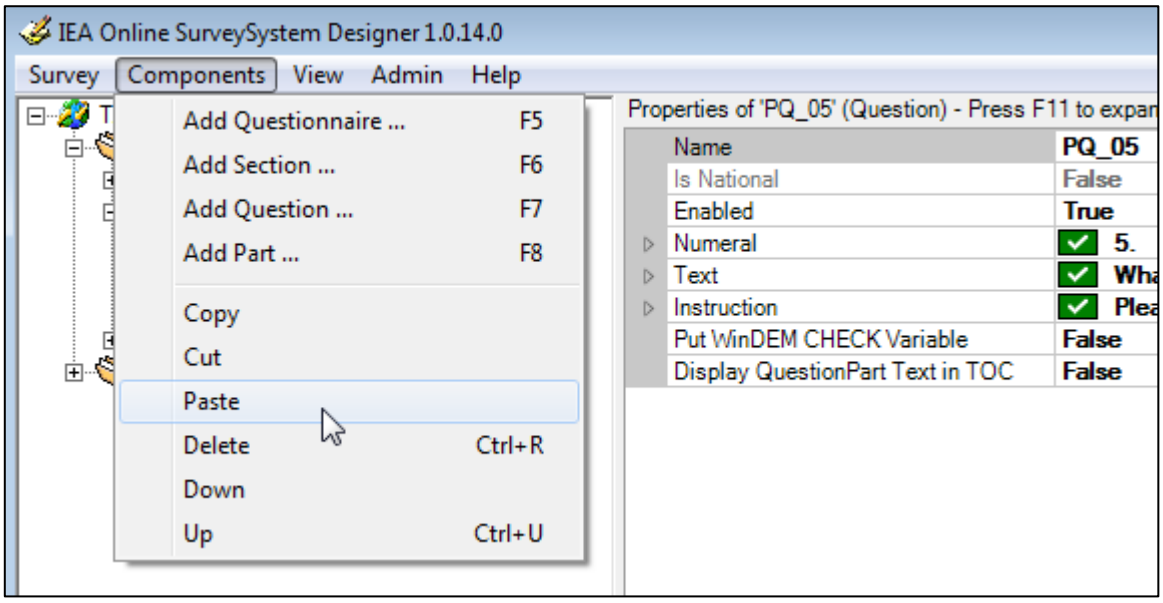


Figure 3-52: Pasting the question part

New

298. The system will automatically name the copied component as <Name>_<country abbreviation><ISCED level> (National).

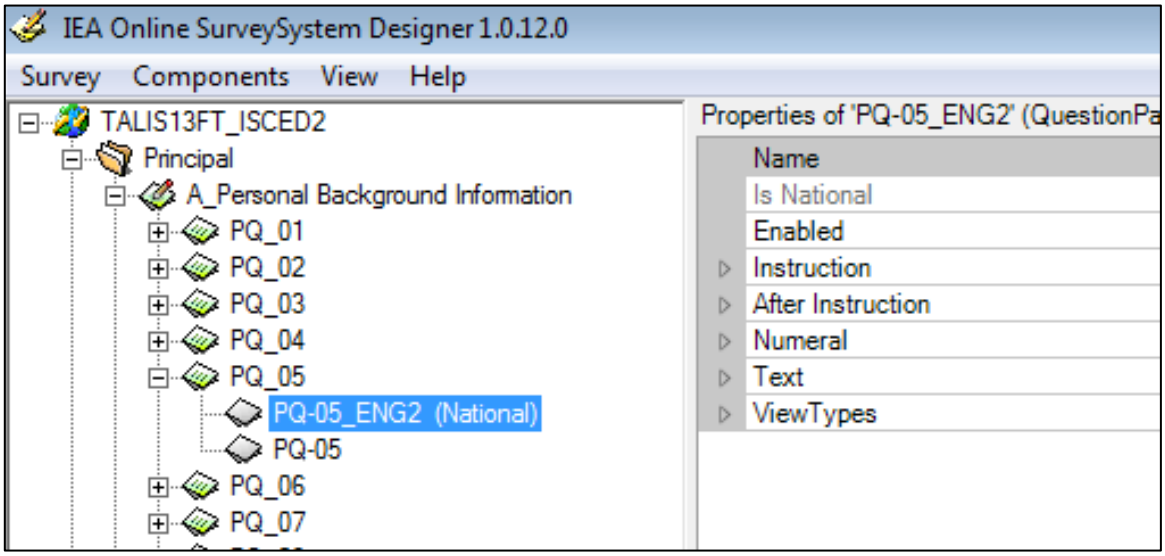


Figure 3-53: Copied question part

299. The variable names will also be copied and changed to <international variable name>_<country abbreviation><ISCED level>.

Please note!

If you administer the same national variable on more than one ISCED level, the variable name created by the SurveySystem hast to be additionally adapted, including all ISCED levels where this adaptation is used. The SurveySystem only adds the ISCED level of the current setup you are using, automatically.

Name	PQ-05_ENG2
Is National	True
Enabled	True
Instruction	not applicable
National Text	
International Text	
After Instruction	not applicable
National Text	
International Text	
Numeral	not applicable
National Text	
International Text	
Text	not applicable
National Text	
International Text	
ViewTypes	IViewType Data
1	List (Non-Categorical) (1)
IsNational	True
Type	List (Non-Categorical)
Direction	Vertical
List Header	not applicable
National Text	
International Text	
List Unit Symbol	not applicable
National Text	
International Text	
Show 100 Percent Sum	False
Dimensions	Dimension Data
Heading	not applicable
National Text	
International Text	
A	A
IsNational	True
Enabled	True
Instruction	not applicable
National Text	
International Text	
Numeral	a)
National Text	a)
International Text	a)
Text	Year(s) working as a teacher before becoming a principal
National Text	Year(s) working as a teacher before becoming a principal
International Text	Year(s) working as a teacher before becoming a principal
Variables	Variable Data
1	TC2G05A_ENG2
Name	TC2G05A_ENG2
DataType	NUMERIC
Is National	True
Length	2
WinDEM Field Label	
WinDEM Question Location	QuestLoc
Index	1
IsOptional	False
Compare Entries	False
Min Value	0

Figure 3-54: Properties of copied question part

300. Please note that the following still have to be considered:

- Set the Variable Name. These should be consistent with the international naming scheme.

301. If the question you intend to add is similar to any of the international questions, it will be easier to copy the international question, use it as a template and only adapt the corresponding bits and pieces.

302. In addition to creating your national question, you will need to hide /disable the corresponding international question. To do this you will have to:

- Select the question you want to disable in the Component Tree.
- Change the property ‘Enabled’ in the property grid (on the right side of the screen) from ‘True’ to ‘False’ for this question. The question will be hidden in the web application and the table of contents.
- Adapt the numerals on question level for all subsequent questions.
- Browse to the question part that you want to disable.

- Identify and expand the desired Dimension within it.
- Change the property of the dimension 'Enabled' in the property grid (on the right side of the screen) from 'True' to 'False'. The dimension will be hidden in the web application and the table of contents.

3.20.8 Adaptation of valid ranges

303. This kind of adaptation refers to non-categorical variables only. You can use it in cases where the valid range of a question in your country is different from the one defined internationally. It is not visually reflected in your national questionnaires, but it concerns the online administration of your questionnaires as well as the codebooks used for the data entry of your paper questionnaires. Note, that the *Min/Max* range can be set, whereas the Length will be automatically increased to meet changes applied to Min/Max. The Length determines the maximum digits possible to enter in the online questionnaires.

304. To change the valid range you will have to:

- Select the desired dimension from the Property Grid.
- Identify and select the desired variable within the dimension.
- Set the Min and/or Max ranges to suitable values.
- Increase the Length individually if needed.

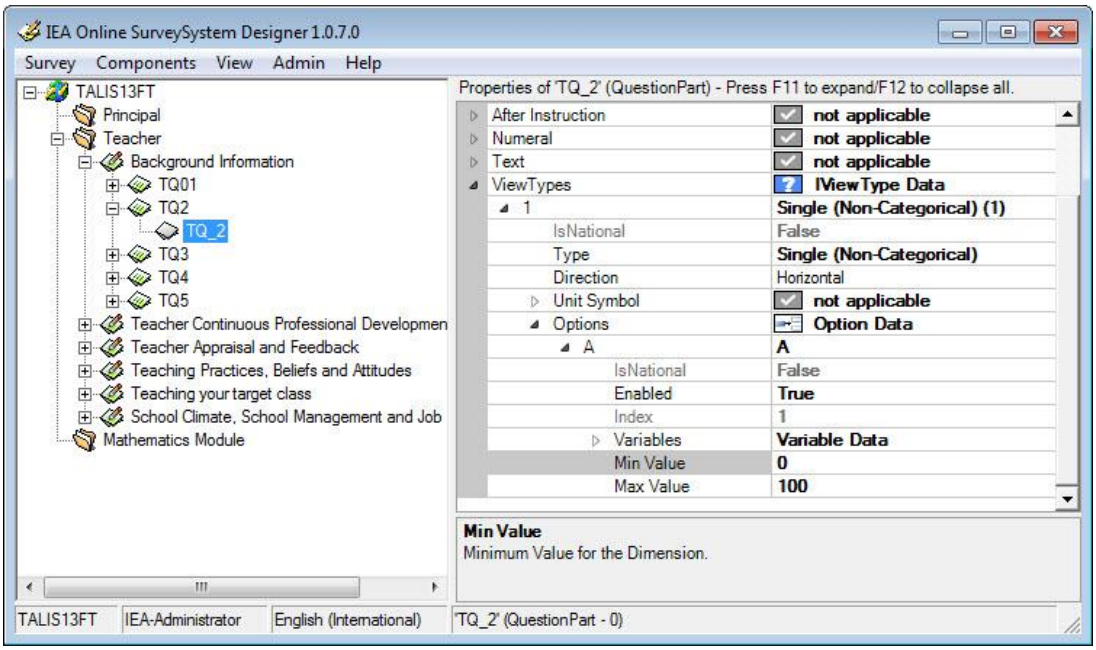


Figure 3-55: Defining minimum and maximum values (Min Value and Max Value)

3.20.9 Including a national logo on the login page

New

305. To support your efforts to make TALIS 2013 more visible and easily recognizable by respondents it is now possible to include your national TALIS 2013 logo on the login page of the TALIS 2013 questionnaires. To include your logo on the login page, please send us the logo together with the resource files and we will include it on your login page.

3.21 Checklist

- ✓ Translate the international resources and create national resource files.
- ✓ Implement your national adaptations.
- ✓ Check your online questionnaires with the web preview and compare translations and layout to your paper questionnaires.
- ✓ Export your resources and submit them the IEA DPC.

4 PREPARING FOR DATA ENTRY WITH THE IEA DATA MANAGEMENT EXPERT (DME)

4.1 Overview

306. For TALIS 2013, the IEA DPC has developed a replacement for the previous standard WinDEM software, namely the "Data Management Expert" (or DME) to integrate, manage and verify national databases.

307. Following successful deployment in other large-scale surveys, the use of the Consortium provided software is mandatory for all countries.

Please note!

The use of the Consortium provided DME software and the delivery of the database in the DME's format is mandatory for all countries.

308. Originally built for use in IEA/TIMSS and IEA/PIRLS 2011, a number of features in the present DME software were purpose-built for use in TALIS. All software components and features have been tested extensively by internal and external testers.

4.1.1 Features

309. The DME software supports the data management at the national centre(s) after the administration of the questionnaires.

310. The following list presents the key features of the DME software and the customisation to the TALIS context:

- It maintains a high-performance, relational database for all response data, *i.e.* it will operate as a single database, yet with multiple tables
- It reflects both the international as well as the national record layout (codebooks) and supports the addition and adaptation of variables
- It re-uses centrally-defined variable and value scheme definitions
- It supports the export to and import from Excel, comma-separated (Unicode) and flat text (Unicode) files to interface with external processes, for example scanning of the paper instruments
- It supports the manual data entry
- It validates data during import, manual entry, and on demand by using pre-specified validation rules that allow for easy and early detection of errors while the original survey materials are still close at hand
- It supports work on separate computers via file merging (note that there is no facility for networked sharing of data entry to the database)
- It limits and controls access to the database using 'roles' with allowing staff to have different specific access rights.

4.1.2 Technology and system requirements

311. Many file-based relational databases for the desktop are easy to administer, manage and backup but either do not support modern data integrity paradigms such as ACID (Atomicity, Consistency, Isolation, Durability), or they lack support for wide tables with a large number of fields. For example, the popular Microsoft Access databases are known to become unstable under high workload and only support tables with up to 255 fields. TALIS will use tables wider than this. Server-based database systems such as SQL Server, on the other hand, are unduly difficult to deploy and maintain for the purposes of TALIS.

312. For a number of reasons, including those above, the IEA opted to build the DME software on the basis of the Microsoft 3.5 SP1 .NET framework, Windows Presentation Foundation (WPF) and a variation of Microsoft SQL Server, the SQL Server Compact 3.5 (SP1). These components have a well-proven reliability and performance, are easy to deploy, and fully support Unicode character sets.

- Microsoft .NET Framework 3.5 SP1
  - The Microsoft .NET Framework 3.5 SP1 is usually included with Windows 7. In that case, it will not be possible to download and install it
  - Download the full package from SharePoint or Microsoft: http://www.microsoft.com/downloads/details.aspx?displaylang=en&FamilyID=d0e5dea7-ac26-4ad7-b68c-fe5076bba986
  - Note that the .NET framework is available in many language versions and the above link points to the English version of it. The DME should work with any of the languages available from Microsoft and selecting a language other than English (as stipulated by the link above) will likely only result in the display of error messages, 'Yes'/'No' buttons *etc*. in the selected language rather than English.
- Microsoft SQL Server Compact 3.5 (SP1) runtime
  - Download from (selecting the appropriate system type) from SharePoint or Microsoft: http://www.microsoft.com/downloads/details.aspx?familyid=DC614AEE-7E1C-4881-9C32-3A6CE53384D9&displaylang=en
  - Note that this download is specific to the type of system (32 vs. 64 bit)

313. SQL Server Compact 3.5 (SP1) maintains file-based and in-process databases. This means that each database corresponds to a single file in the file system and that this file is only in use while the DME software is running. When no instance of the DME is running, any database files can be copied, backed up or deleted as any other file.

314. SQL Server Compact 3.5 is accessible through respective ADO.NET classes in the .NET framework. Although an OLEDB driver exists, it does not support all database features, for instance cursors to iterate through a resultset, and their use is discouraged. There are no ODBC drivers for Microsoft SQL Compact.

315. While connecting directly to the database file using ADO.NET is technically possible, the DME software uses password protection and encryption for all database files to safeguard against direct (and possibly erroneous) access to the database. The Consortium supports access to TALIS database files via the DME software's user interface only, and this includes the manipulation, import and export of data. Direct manipulation or access to the data by bypassing the GUI is not recommended or supported.

316. The DME has been designed for computers running Windows XP Service Pack 2 and higher, so including Windows Vista and Windows 7, and any language version of these.

4.1.3 DME software and licensing requirements

317. The DME will not install or execute on Windows 95, 98, ME, NT or 2000. No support is provided for Mac OS X or Linux computers unless the software is run within virtual Windows XP (or later) machines.

318. As part of the contract for the implementation of the second round of TALIS between the OECD and the Consortium, the IEA Data Management Expert (DME) software and any accompanying materials are licensed without additional cost, not sold, to OECD and participating countries for use in TALIS. The Consortium/IEA grants an unlimited non-exclusive world-wide license to use, and reproduce (only to the extent necessary to use) in their executable code only, the DME software which belongs to the Contractor/IEA, in connection with TALIS, including any future TALIS surveys, whether or not contracted out to the current contractor/Consortium.

319. The said DME license is made available free of additional costs to participating countries (*i.e.*, participating either through OECD or directly through the Consortium).

320. The license applies only to the executable version of the DME software delivered by the Consortium/IEA, and does not include the right to reproduce (except as necessary to use) or the right to modify, improve, create derivative works, incorporate into other works, translate or publish the software in any manner or media, to do reverse engineering, decompile, disassemble the software or to try to discover its source code.

321. The third party software in the DME software, namely the Microsoft SQL Server Compact 3.5 SP1 runtime, has been incorporated and redistributed under the applicable redistribution license granted by the respective owner.

322. The Consortium/IEA retains ownership of the pre-existing intellectual property rights it has in relation to the DME software and any other tools and methodologies incorporated into its work for TALIS, including, without limitation, trade secrets and technology.

323. Technically, the license granted to users as part of the Main Study version of the DME software expires on 31 December 2013. If you need to extend it, please send a request to the IEA DPC (talis@iea-dpc.de).

4.1.4 Installation

324. The DME and any accompanying materials are available to NPMs/NDMs from the TALIS SharePoint site. NPMs and any authorised members of the national teams should already have received valid user names and passwords for this site.

325. The software should be installed on the desktop computer that you as an NDM are using on a daily basis. Additionally, the software should also be installed on other computers used for the manual data capture (see Section 4.5) or if you plan to work with multiple databases in parallel (see Section 4.3.5). There is no limit to the number of computers at the national centre that the software can be installed to.

326. To install the DME software, simply run the ‘setup.exe’ file that you downloaded from the SharePoint site and follow the instructions given by the installation wizard. Shortcuts to the DME software will be added to the start menu for all users of the computer.

327. The setup package will check for the existence of all runtime requirements and will prompt you to install these on your computer if missing. The setup program will then copy libraries and

frameworks into your Windows system directory as well as into the program files directory under *'C:\Program Files\IEA\IEA Data Management Expert - TALIS MS'*.

328. To install the software, you will need administrative rights on your computer (and will have to click through a series of warning message in Windows Vista and Windows 7).

4.1.5 Updates

329. Updates of the software will be announced via e-mail and additionally in the announcement section of the SharePoint site.

4.1.6 Options

330. In order to open a project file or import or export data easily project-wide from your current directory, the default project path should be defined using **Options** from the **Projects** menu. This functionality is available for every access role.

331. After choosing **Options** from the **Projects** menu, the following window will be displayed:

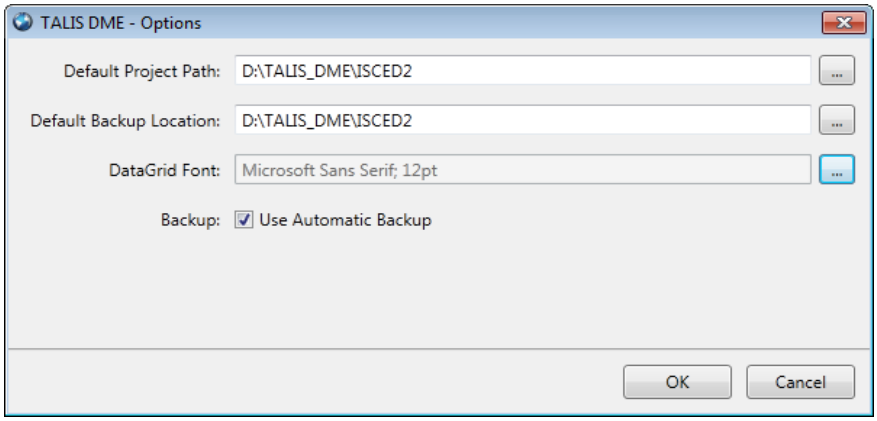


Figure 4-1: DME Options dialogue

332. The program always starts with the default project path when you open a project or create a new one.

333. For all data grids the chosen font is displayed. The default font is "Microsoft Sans Serif", Regular, 12 point. Selecting a different font may be necessary to read literal (string) values for complex character sets that the default font doesn't support in terms of fonts/glyphs (*e.g.*, Japanese).

334. If the check box for "Backup: use automatic backup" is checked, a backup is created in the default path every time the program is closed.

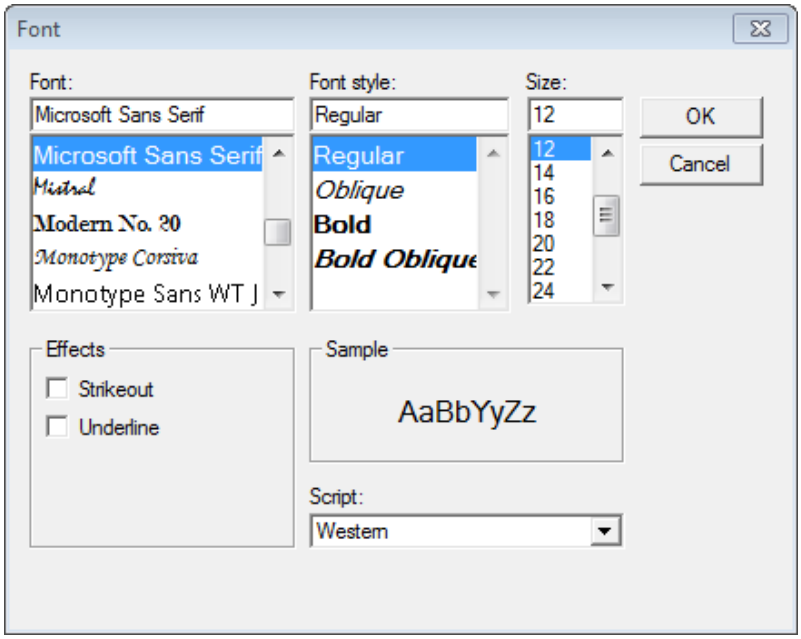


Figure 4-2: DME Font dialogue

4.1.7 Uninstalling

335. To uninstall the software, simply use **Add or Remove Programs** from the Control Panel and select the DME software version you want to remove. After this, you may want to check the installation directory, usually '*C:\Program Files\IEA\IEA Data Management Expert - TALIS MS*', for any undeleted files or folders.

4.1.8 Checklist

- ✓ Receive (download) software and materials.
- ✓ Read and understand system requirements.
- ✓ Read and understand licensing terms.
- ✓ Install software on desired computers.
- ✓ Set options as desired/necessary.

4.2 Understanding the DME codebook and database structure

4.2.1 Overview

336. The key concepts used in the TALIS data management and proprietary database structure are variables (including their value and missing schemes), datasets and instruments. The combinations of information in these entities are known as "codebooks", "meta-data" or "record layout". In the remainder of this document, the meta information describing the TALIS data will be referred to as "codebooks". In addition, data in TALIS is stored by means of data records and eventually data values. Each of these concepts will be introduced in more detail in the following sub-sections:

4.2.2 Variables

337. A *variable* is a characteristic of a unit being observed that may assume more than one of a set of values to which a numerical measure or a category from a classification can be assigned (*e.g.* age, gender, education *etc.*). Variables correspond to fields (columns) in the resulting database. Each variable in TALIS is defined by a set of attributes and this section explains the variable attributes as used in the DME software and database as well as key identification variables and variable naming conventions.

338. The DME software "re-uses" variable definitions in a number of ways. Variables are defined once and only once and then referenced in the corresponding datasets or instruments in which they are used. For example, always one of the TALIS operational IDs for sampled schools (IDSCHOOL) and teachers (IDTEACH) is used in all its datasets but defined centrally only once. Secondly, value and missing schemes in the DME software are defined only once and then referenced by the corresponding variables rather than being defined multiple times. For example, a scheme consisting of four values such as "strongly disagree" (1), "disagree" (2), "agree" (3) and "strongly agree" (4) are defined once and then referenced by a number of variables (in this case, for example, by variables TT2G45A-H in the Teacher Questionnaire). This recycling of variables and schemes allows efficient and consistent definition and adaptation of codebooks.

4.2.2.1 Variable attributes

339. All variables in the DME software possess common attributes such as a name or label and some that correspond to the nature of the variable. A numerical variable holding *age* information will have attributes relating to the allowable range of ages, whereas a variable for *gender*, obviously, should only allow two distinct values.

340. The below list describes the attributes used in the DME software. These have been defined with the two most commonly used packages for statistical data in mind, namely SAS and SPSS, and as a result both the terminology as well as the nature of the attributes will look familiar to those professionals who have worked with these packages before. The variable attributes will be explained again in practical terms later in this manual in relation to adaptations and extensions of the codebooks.

- **Name**
  Each variable in the codebook has a unique, non-empty name.

Valid names have a maximum length of 32 characters and can only use the following characters: a-z, A-Z, 0-9 and _ (underscore). The first character must be a letter. Mixed case is allowed but names in the DME are case-insensitive.

Variable naming conventions in TALIS are described in section 4.2.2.3 of this document.

Although longer names are technically possible, all international variables in TALIS use no more than 8 characters in their names to comply with older software for statistical modelling that do not support

longer names. The only exceptions to this rule are national adaptations in the questionnaires that may exceed 8 characters with a country identifier such as “ELB” appended to them.

- **Label**
  Each variable in the international codebook has a descriptive label. Labels can be up to 255 bytes/characters long. All international labels will use ASCII characters only. The label includes as much of the original question as possible to easier distinguish the variables.

There is no default value.

- **Label (localised)**
  This attribute gives a country the possibility to translate the international label into any language or re-label it. Labels can be up to 255 bytes/characters long.

  The default value is an empty string (*i.e.* “”).

  Functions producing SPSS/SAS control syntax will allow for the selection of either international or localised labels.

- **Type**
  This attribute describes the type of data stored in a variable and takes the following codes:

  1 = Integer
  2 = Numeric/floating point
  3 = String/character (Unicode)

  The default value is 1 (Integer).

  Types 1 to 3 are the most often used data types in TALIS. The Type attribute determines the data type to be used in the underlying database column. The only exception to this are the special data types used for identification variables (4), check variables (5) and the checksum (6).

  Level
  This attribute describes the measurement level of a collected variable. It has the following codes:

  0 = Not defined
  1 = Nominal (*i.e.* values have no intrinsic order or association; they ‘just’ label codes)
  2 = Ordinal (*i.e.* values have an intrinsic order as in “never”, “seldom”, “often” and “always”)
  3 = Scale (*i.e.* values are ordered categories with a meaningful metric, so that distance comparisons between values are appropriate)
  4 = Ratio (*i.e.* a scale with a non-arbitrary zero point)

  The default value is 1 (nominal).

  The level of measurement has no practical use in the DME software and the TALIS data management but was included for the sake of completeness and to allow setting the corresponding variable attribute in SPSS (in which case “ratio” will be collapsed with “scale”).

- **Width**
  Consistent with common statistical packages, this attribute indicates the total width of a variable, including any decimal places as well as the decimal separator itself.

  The default value is 1.

  Although the theoretically possible length of a numerical variable is much longer in modern database systems, current versions of SPSS may lead to incorrect and rounded integer values for numerical

variables that are longer than 15 digits, Therefore, the maximum length for a numerical variable in the DME software is limited to 15 digits for the integer part.

The maximum width of a string variable is 32767.

The width of a variable varies depending on the data to be stored in it. The total width of a numeric variable depends on all predefined valid and missing values as well as the number of decimal places to the right of the decimal separator. The vast majority of variables in TALIS use a width of 1 or 2 digits. The width of a string (alphanumeric) is the length of the longest expected value for this variable.

- **Decimals**
  This attribute indicates the number of decimals of the variable to the right of the decimal separator (dot or comma depending on the locale) and is the minimally required precision of a variable (or the precision to display if full precision numbers are stored).

  The default value is 0 (zero).

  The Width and Decimals attributes in the DME follow the commonly used *w.d* notation also found in SPSS/SAS where *w* is the number of positions to be used (including the decimal separator) and *d* the number of digits to the right of the decimal point /the fractional part of a number).

- **Range Minimum**
  This field defines the lowest of a range of values expected for a numerical variable.

  There is no default value. The lowest possible range minimum is 0. If a range minimum is specified, a maximum is also required.

  This attribute must be empty (null) for all variables with a specified value scheme.

- **Range Maximum**
  This attribute defines the highest of a range of values expected for a numerical variable.

  There is no default value. The highest possible range maximum is limited only by the length of the numerical variable and any applicable missing values. If a range maximum is specified, a minimum is also required.

  This attribute must be empty (null) for all variables with a specified value scheme.

- **Range Force**
  This Boolean attribute defines whether it is possible to use values that are out of range (*i.e.* below the minimum or above the maximum) but still within the limits of the data type and width limitations. True (1) means that it is not possible to enter/use values outside of the specified minimum/maximum. False (0) means that it possible to do so.

  There is no default value.

- **Value Scheme**
  For variables of type integer and string, the values the variable is expected to hold can be predefined in a value scheme that defines codes and labels for each valid value such as 1=Female and 2=Male. Codes can be either of type string or integer. Integer accounts for the vast majority of codes in TALIS. Each value scheme is identified by a unique ID number and this is ID is referenced by one or more variables. Value labels can be up to 120 characters long.

  Typically, value schemes start with code 0 or 1 and use consecutive numbers without gaps up until the number of values that the variable can take.

There is no default value. For variables of type numeric or date/time, the attribute is empty (null).

A full list of schemes and their values is too long to be included in this manual but provided in the international codebooks.

The use and adaptation of value schemes will be described in more detail in Section 4.4.2.10.

- **Missing Scheme**
  Each variable is associated with a missing value scheme that defines codes and labels for each missing value. Each value scheme has a unique ID number which is referenced by the variables.

  Typically, missing schemes start with the highest possible number for a variable of a specific length and adjacent values to distinguish the nature of the missing data (such as “omitted/invalid”).

  There are two missing schemes available at the time of data capture: all string variables must have a default missing scheme assigned; all other questionnaire variables must have a background missing scheme assigned.

  Note: missing schemes in TALIS will differ significantly between the time of data capture in the field and the resulting analysis databases. For instance, missing values reflecting validly skipped questions in the questionnaires will be derived in the international data processing by the Consortium.

- **Data Entry Carry-On**
  This attribute is used during manual data entry. *True* (1) means that the data entry sub-system in the DME will suggest the value entered for the same variable in the previous record. *False* (0) means that no value will be suggested.

  The default value is *false.*

New

  This attribute is activated for the variable IDLANG and can be activated for additional variables by everyone logging in with Manager Rights.

- **Data Entry Hidden**
  This field indicates whether a variable will be hidden during data entry. *True* (1) means that a variable associated with an instrument will not be prompted during manual entry. *False* (0) means that it will.

  The default value is *false.*

- **Data Entry Note**
  This attribute may give additional information, notes and instructions for certain variables during manual data entry.

  The default value is an empty string (“”). The maximum length is 1000 characters/bytes.

- **Domain**
  This attribute defines the domain of the variable, *e.g.* a logical group of variables such as "ID Variables" or "Background Questionnaire".

  The default value is 0 (not assigned).

- **Coverage**
  This attribute may hold the narrative description of the variable coverage, reflecting any conditions, reduced coverage (*i.e.* questions presented only to a particular part of the population).

  The default value is an empty string (“”). The maximum length is 1000 characters/bytes.

- **National**
  This attribute indicates whether the variable is an internationally-defined (value *false*) or a nationally-adapted variable (value *true*).

  The default value is *false*, but variables added to the codebook by participating countries will automatically be set to *true*.

- **Suppressed**
  This attribute indicates whether values stored in a variable will be exported (value *false*) or set to blank/missing values during export (value *true*).

  The default value is false.

  None of the variables for TALIS will be suppressed.

- **Comment**
  This attribute may hold additional comments and remarks for a variable, *e.g.* name of the original response variable(s) for coded variables.

  The default value is an empty string (“”). The maximum length is 1000 characters/bytes.

4.2.2.2 Variable domains

341. Variable domains are groups of variables that are connected by their source, nature or purpose. Domains are supplementary codebook information that aid in understanding the nature of variables or list them in a more human-readable way.

342. TALIS assigns the following variable domains to its variables:

- **0 = Not assigned**
  Used for any variable that has not or cannot be unequivocally allocated to one of the other domains. This is not relevant for the codebook used for TALIS data entry.

- **1 = Sampling / weighting**
  Variables related to the selection of respondents and the subsequent weighting information. This includes selection probabilities as well as stratum, ranking and non-response adjustment information. This is not relevant for the codebook used for TALIS data entry.

- **2 = Background questionnaire**
  This domain includes all variables of the TALIS questionnaires and the check variables.

- **3 = Filter**
  This domain is a specialised definition of the background questionnaire domain. It is used to define variables which are used as filters for further questions.

- **4 = Filter Dependent**
  This domain is a specialised definition of the background questionnaire domain. It is used to define variables for which responses are only expected if the filter variables are answered in a certain way.

- **5 = ID Variables**
  The variables in this domain are variables used for identification of respondents and data punchers.

4.2.2.3 Variable naming conventions

343. All questionnaire variables in the TALIS questionnaires follow the following variable naming convention:

- The first character indicates the study name:
  - T for TALIS
- The second character indicates the respondent level:
  - C for school principal
  - T for teacher
- The third characters indicates the study cycle:
  - 2 for 2nd cycle
- The fourth character indicates the type of data:
  - G for general background questions
  - M for mathematics questions (this applies only to the Mathematics Teacher Module)
- The fifth and sixth characters indicate the number of the question in the questionnaires, *e.g.* “01”, “02” or “03”.
- The seventh character is an optional digit for multi-part items, *e.g.* “A”, “B” or “C”.
- The eighth character is another optional digit for multi-part items, *e.g.* “1”, “2” or “3”.

344. Text variables are identified with an additional “T” at the end of the variable name.

345. Country-specific adaptations and extensions are indicated by the variable name to which the adaptation or extension belongs followed by:

- An underscore, to easier distinguish them from international variables
- The alphanumeric country code (in capital letters)
- An X (in case of an national extension)
- A digit indicating for which target population this adaptation is relevant
  - 1 for ISCED level 1
  - 2 for ISCED level 2
  - 3 for ISCED level 3
  - 8 for the TALIS-PISA link

New

346. Special case: If dimensions are split for a national adaptation, this needs to be indicated by an additional digit “A”, “B” or “C”.

347. Examples:

- TT2G01A_AUSX123 (Australian extension, ISCED Level 1-3)
- TT2G01A_BRA1 (Brazil adaptation, ISCED Level 1 only)
- TT2G11B_CZE2A and TT2G11B_CZE2B (Czech adaptation, ISCED Level 2, international dimension TT2G11B was split in two)

4.2.2.4 Identification variables

348. Every valid dataset contains identification variables that correspond to units, entities or people in a survey or those that participated in its conduct. Typically, one or more identification variables appear at the beginning of each data record (the so-called "ID block") and determine the source of information for all following values of the record.

- **IDSCHOOL**
  This variable identifies the sampled school. IDSCHOOL is defined as a 4-digit variable and follows the following ID scheme during the Main Study:

New

Table 5.1: Overview of school IDs during the TALIS 2013 Main Study

1001-1499	ISCED 1	Original school
1501-1999		1st replacement school
2001-2499		2nd replacement school
2501-2999		National schools
3001-3499	ISCED 2	Original school
3501-3999		1st replacement school
4001-4499		2nd replacement school
4501-4999		National schools
5001-5499	ISCED 3	Original school
5501-5999		1st replacement school
6001-6499		2nd replacement school
6501-6999		National schools
7001-7499	PISA	Original school
7501-7999		1st replacement school
8001-8499		2nd replacement school
8501-8999		National schools

- **IDTEACH**
  This variable identifies the teacher within a school. IDTEACH is defined as a 6-digit variable, where the first four digits identify the school and the last two digits the teacher within the school.

- **IDPUNCH**
  This variable identifies the person entering the values from the paper questionnaires. IDPUNCH is a 3-digit variable. An IDPUNCH value must be assigned to each data puncher individually.

4.2.3 Datasets

349. A dataset is a logical collection of rows and columns where each column represents a clearly defined variable identified by its unique name and each row corresponds to a record of valid or missing values collected for a respondent. There are 6 datasets in TALIS:

- **TCG – Principal Questionnaire**
  This dataset includes the ID block which is used to identify the respondent and the data puncher plus all variables from the Principal Questionnaire.

- **TTG – Teacher Questionnaire**
  This dataset includes the ID block which is used to identify the respondent and the data puncher plus all variables from the Teacher Questionnaire.

- **TTM – Mathematics Teacher Module**
  This dataset includes the ID block which is used to identify the respondent and the data puncher plus all variables from the Mathematics Teacher Module.

Please Note!

The Mathematics Teacher Module is part of the codebook structure, regardless of the international option for which you will use the codebook.

- **TCGD – Principal Questionnaire Double Punching**
  This dataset includes the ID block which is used to identify the respondent and the data puncher plus all variables from the Principal Questionnaire. It has the same structure as the Principal Questionnaire dataset and is used for double punching.

- **TTGD – Teacher Questionnaire Double Punching**
  This dataset includes the ID block which is used to identify the respondent and the data puncher plus all variables from the Teacher Questionnaire. It has the same structure as the Teacher Questionnaire dataset and is used for double punching.

- **TTMD – Mathematics Teacher Module Double Punching**
  This dataset includes the ID block which is used to identify the respondent and the data puncher plus all variables from the Mathematics Teacher Module. It has the same structure as the Mathematics Teacher Module dataset and is used for double punching.

4.2.4 Instruments

350. Instruments as used in the DME software and database are logical sets of variables and are similar to a SQL SELECT query or view in which a sub-set of variables are selected in a particular sequence from a larger table. The instruments in the DME are used for manual data entry. In TALIS there is a direct 1:1 correspondence between the instruments and datasets.

4.2.5 Data records

351. Data records in the DME software and database simply correspond to a single row in a dataset, identified by one or more unique identifiers. In each dataset, there is only one data record per respondent.

352. Each data record in a dataset will have the same set of variables and for each of these variables, either a valid value or a missing value will be stored.

4.2.6 International options

353. Countries will be provided with only one codebook, regardless of their participation in additional international options. However, countries have to submit one DME database per international option.

4.2.7 Checklist

- ✓ Understand the codebook and data structure in TALIS, especially its sources, datasets and instruments.
- ✓ Identify differences to the logic and terminology typically used in national data management and processing.
- ✓ Understand that the DME database will include the full set of variables for all TALIS questionnaires and that in some cases the variables of the Mathematics Teacher Module can be safely ignored if you are only participating in the international options ISCED Level 1, ISCED Level 2 and/or ISCED Level 3.

4.3 Managing DME files and projects

4.3.1 Overview

354. By 'Project' we refer to the TALIS codebooks which reflect the international and national record layout. It is a single database consisting of multiple tables.

4.3.2 Creating a new project

355. In order to start a new project the application has to be installed and started. At start up the DME main view opens. Select the menu entry **New…** from the **Project** menu.

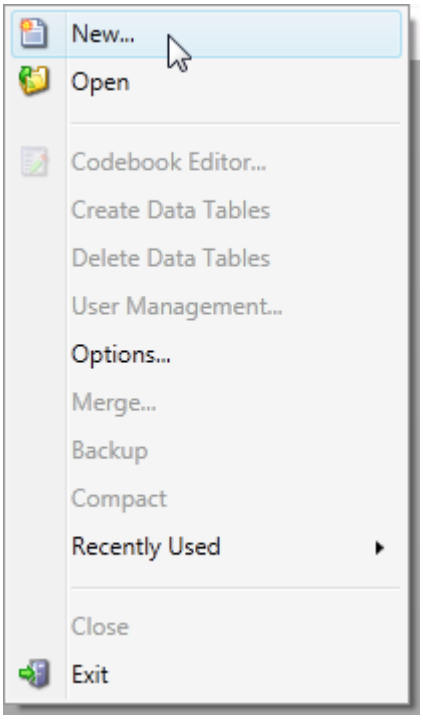


Figure 4-3: 'New Project' menu

356. Login as "**Manager**" with the password "**D9M1E0**" and click **OK.**

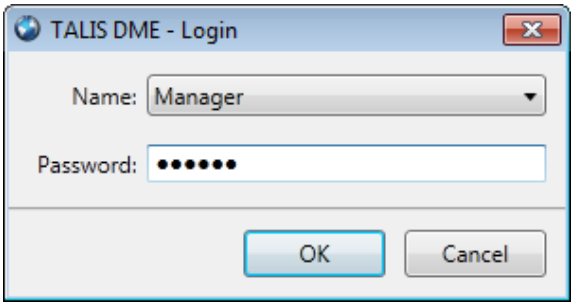


Figure 4-4: Login dialogue

357. The window for project creation appears and you have to enable/click the checkbox **Copy from an existing project** in order to import the template from the international master database/codebook.

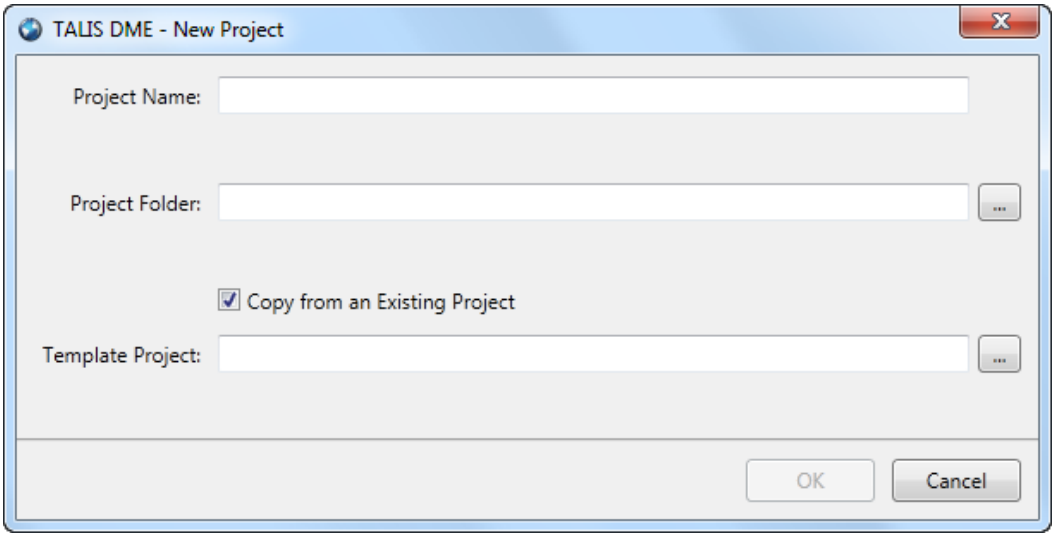


Figure 4-5: 'New Project' dialogue

358. You can either directly enter the path to the international master database/codebook in the Template Project field, or you can click ... to navigate to the correct .dme file. After you have chosen your database, click **Open.**

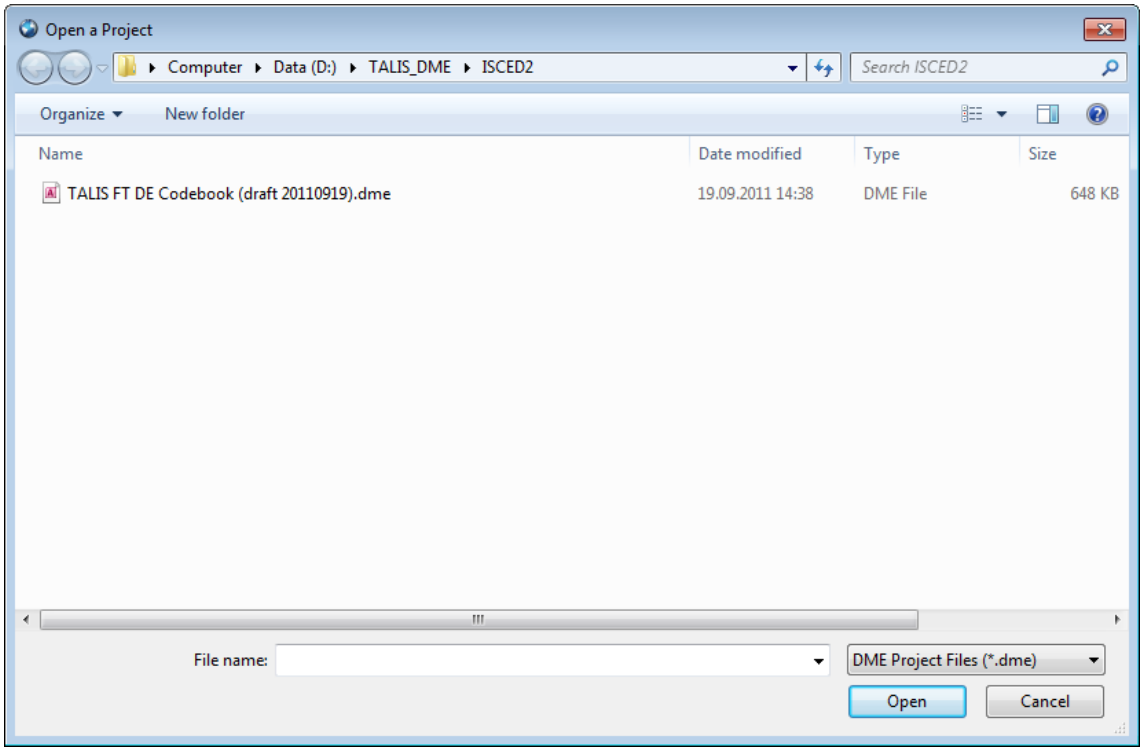


Figure 4-6: 'New Project' open template

359. You will also need to choose a new name for your project and a folder to store it in. Please be careful to give a distinct new project name to avoid confusion with the template project later. We recommend the following convention: *TALIS_Country_FT/MS_master/clone*, e.g. *TALIS_ELB_FT_master*. After entering a project name, click **OK**.

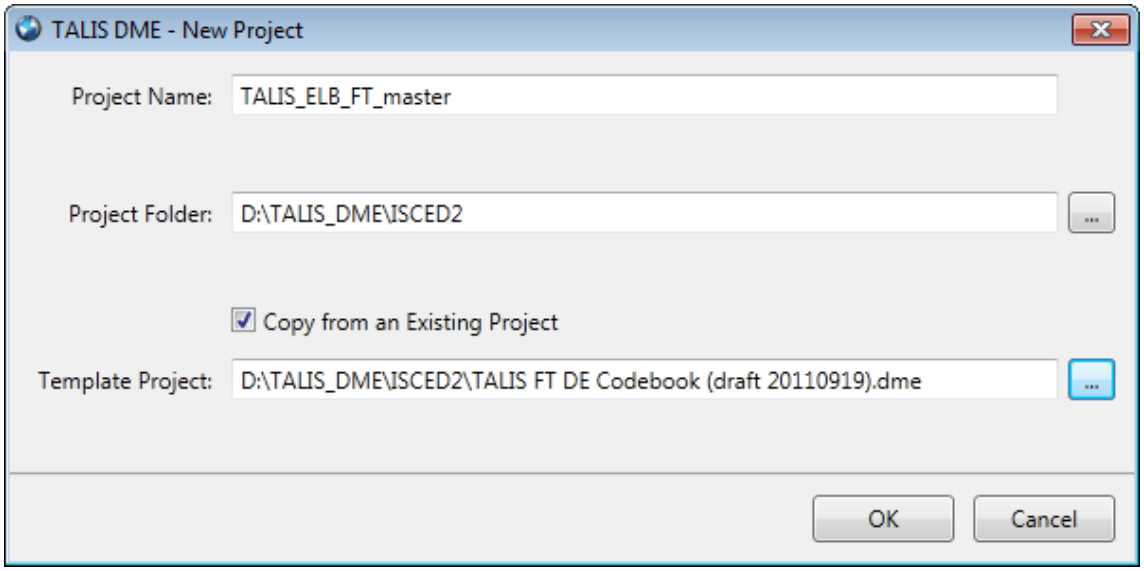


Figure 4-7: 'New Project': Defining the project name and folder

4.3.3 Opening and closing projects

360. In order to open a project the DME application needs to be started. The start-up page of the application will be displayed. Selecting the option **Open** from the **Project** menu enables the user to choose the desired project.

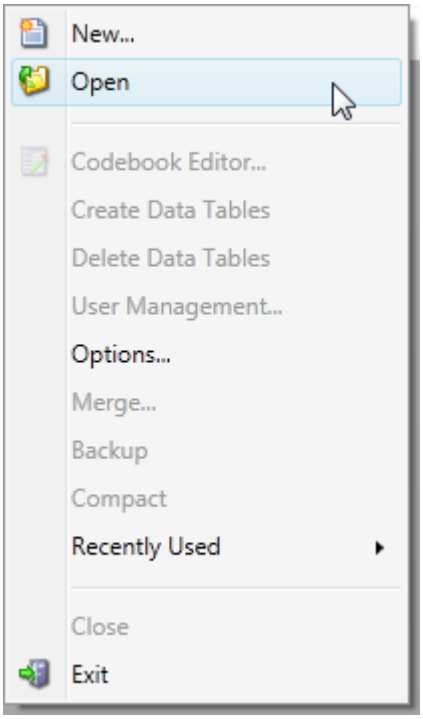


Figure 4-8: 'Open Project' menu

361. A window to browse to the location of existing projects appears. Having selected a project and having confirmed with the **Open** button, the system will prompt you to type in your login information. Typing in the correct login information provides access to the respective project in the chosen role (see next section). A project can be closed again by selecting the option **Close** from the **Project** menu.

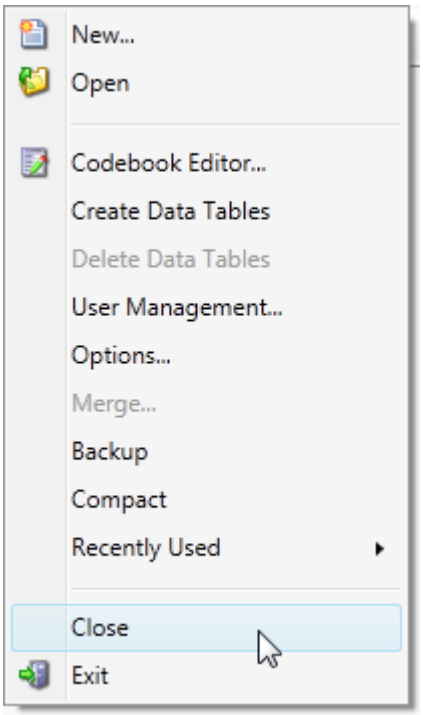


Figure 4-9: 'Close Project' menu

362. The menu option **Exit** will close down the entire DME application.

4.3.4 Managing users and logins

363. The Data Management Expert provides different roles for login. When logging in for the first time there will be two roles offered for selection:

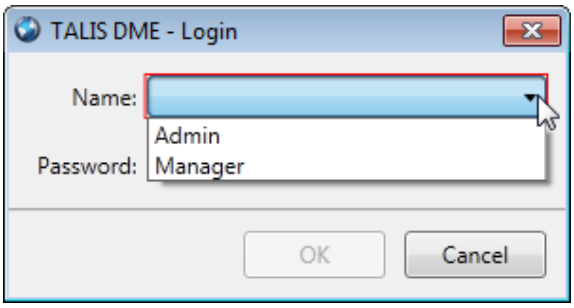


Figure 4-10: Login dialogue (before user set-up)

364. Firstly, there is the Administrator role; access to this role is only granted for Consortium staff. It is mainly used to create the international master codebooks.

365. The second role is the Manager role with the password '**D9M1E0**' which provides access with all necessary rights in order to perform national adaptations and to manage the project within countries. It should be used by NPMs and NDMs only and not shared with data entry staff.

Please Note!

The Manager password is '**D9M1E0**'!

366. Staff that will be mainly responsible for data entry and verification should use the third role, the **User** role. Named users with this role have no access to adaptations and to some project management aspects. User accounts need to be set up by **Administrators** or **Managers** selecting the option **User Management** via the **Project** Menu.

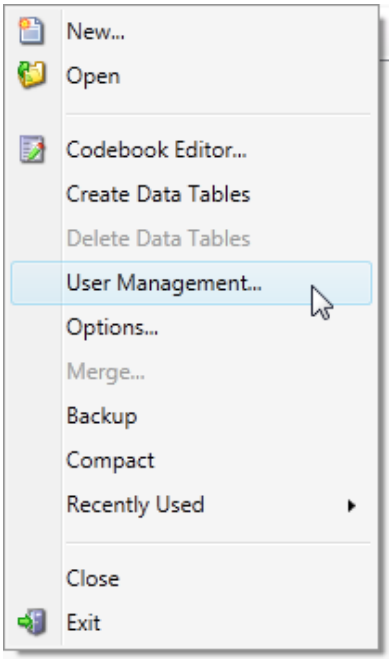


Figure 4-11: 'User Management' menu

367. As many accounts as needed can be created. User accounts need to be unique in both name and password.

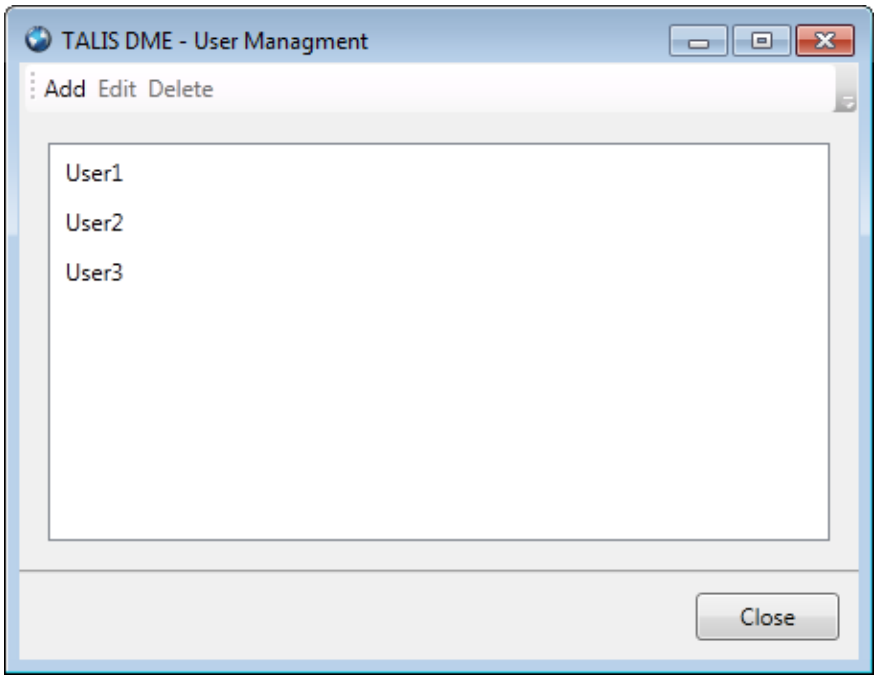


Figure 4-12: 'User Management' dialogue

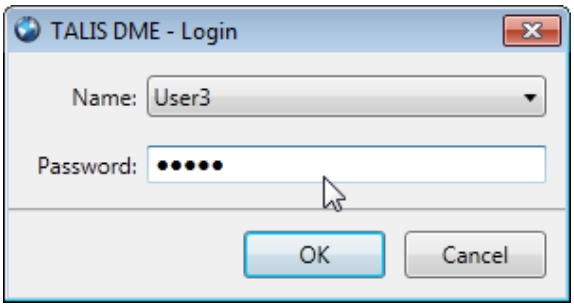


Figure 4-13: Login dialogue (user role)

368. The **User** role should especially be applied to data entry staff who will be responsible for the data entry from paper instruments into the DME. Having logged in as a **User**, certain parts of the menus will be disabled or restricted in access.

369. Finally, note that defined users are specific to a particular project (*i.e.*, a single database).

4.3.5 Cloning databases and working on multiple computers

370. The DME software allows for the cloning of a master database for simultaneous work on different computers and the later merging of those databases. It does NOT support access to a single, network-located database.

371. Working with databases on different computers will facilitate distribution of work and accelerate the procedure of data entry. As a standard procedure, we recommend that you should have one main database, with data tables created (see Section 4.4.3) – to clone for different users. Note that this database might very well already contain data from former manual entries or imports. Users

should open this database; enter their data into the data tables and save the database with a different name in order to be able to differentiate it from the main one. After data entry is completed by the users, the owner of the original main database (this should be the NDM or NPM) will be able to merge all cloned databases to the main one again.

372. Cloning can be achieved in two distinct ways:

- By simply copying a project root folder, the contained database and all subfolders
- By creating a new project and basing it on an existing master one. This will:
  - create a new project folder structure and database
  - take over all codebook adaptations and users/password from the template database
  - not create data tables yet

4.3.6 Merging databases for the same project

373. When working on multiple computers with clones of the original database/project you have to take care when finally merging these with the master copy. Only databases that have the exact same codebook can be merged: the merge will abort otherwise. It is therefore crucial that you start cloning your database only after all national adaptations have been implemented in your codebook.

374. You can choose if you want to merge the whole database or only a subset of selected datasets. If a record of the same unique identifier (IDSCHOOL or IDTEACH) exists in both the program will abort the entire merge with a warning message, including specifics about which records are duplicate.

375. To merge a database with the master database, the master database needs to be opened and the Merge… option selected from the Project menu.

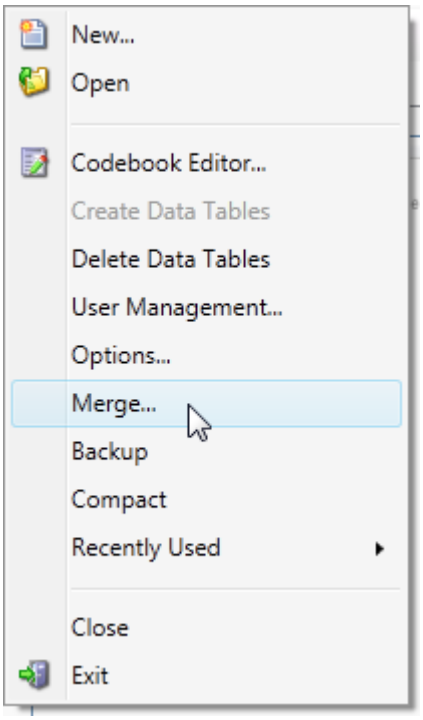


Figure 4-14: 'Merge project' menu

376. Now, select the file which should be merged with the master database.

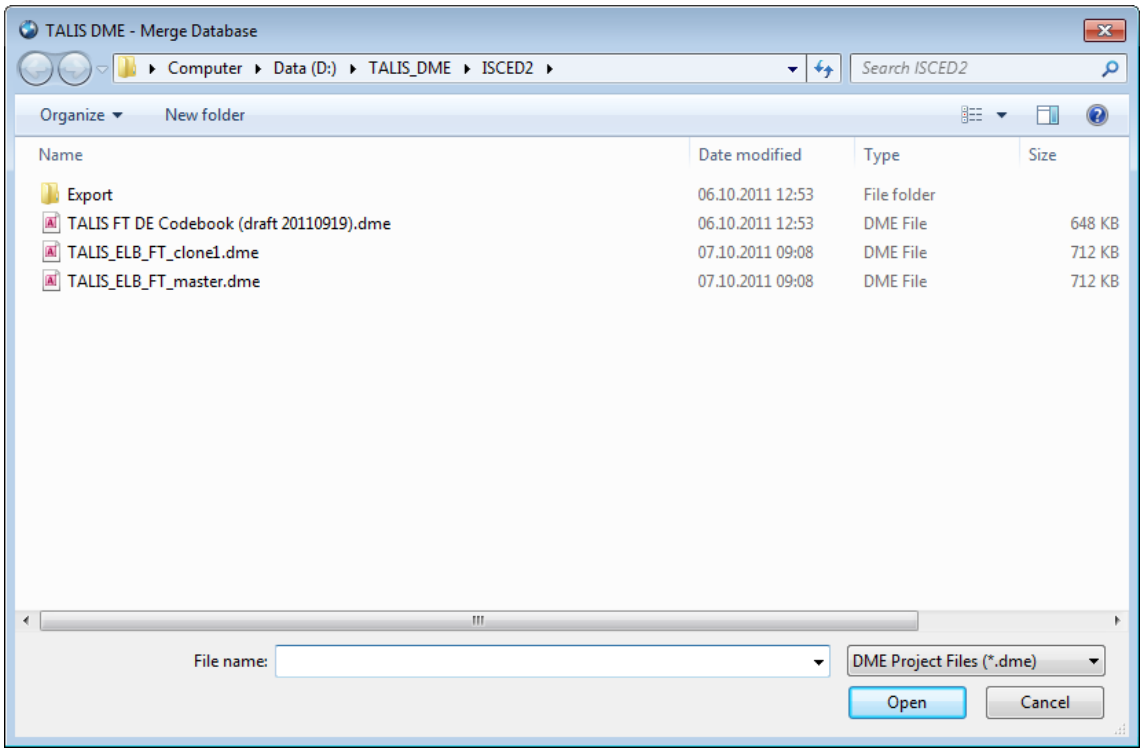


Figure 4-15: 'Merge Project' template: "Open dialogue"

377. After clicking the **Open** button, a window will be opened which asks you to select the datasets which should be imported. Select the specific files you want to merge and click on the **OK** button.

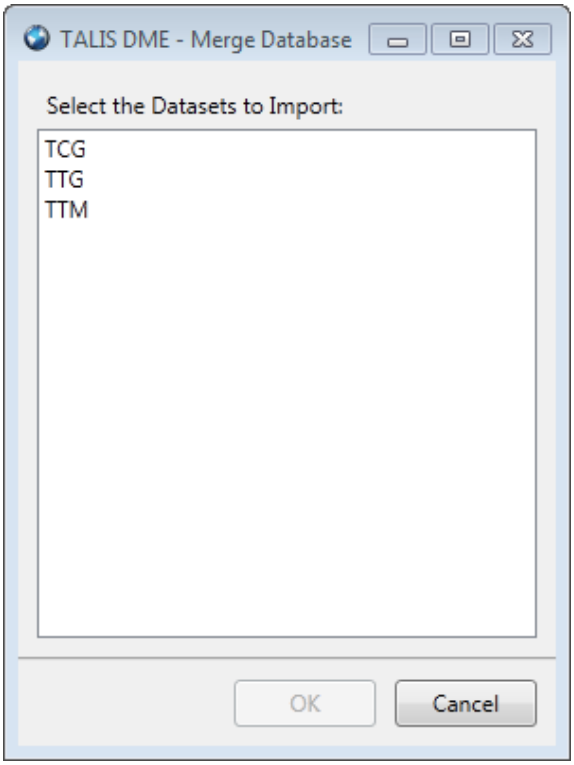


Figure 4-16: Merge-select options: Selecting datasets for merging

378. The following requirements need to be met in order to merge successfully:

- Same project version in the databases
- Same codebook structure in the databases
- No overlap of unique identifiers in the databases

379. The following window will be displayed to confirm the success of a merge:

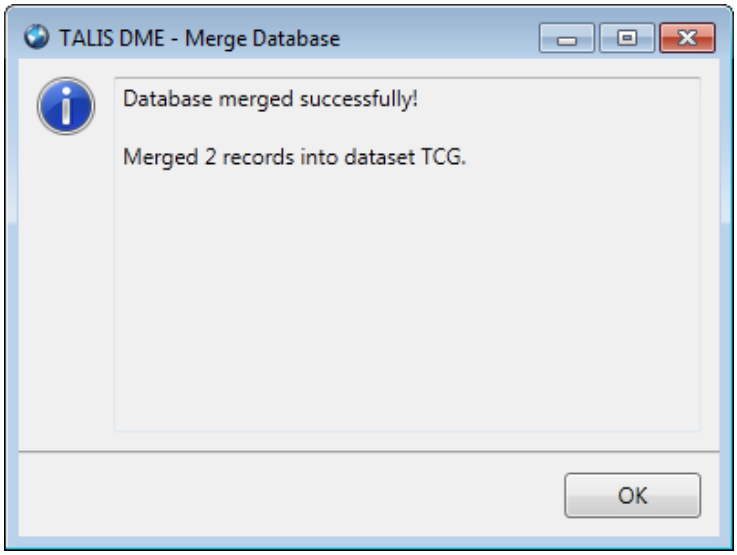


Figure 4-17: Message after successful database merging

380. If one of the above-mentioned requirements is not met, you will receive an error message. For instance, the error in Figure 4-18 below shows that a unique identifier (IDSCHOOL = 9303 and 9304) is available in both databases. The merge would therefore abort. To be able to merge these databases you would need to solve the duplicate issue by deleting the record for this unique identifier in one of the databases or achieve use the export/import features to transfer data.

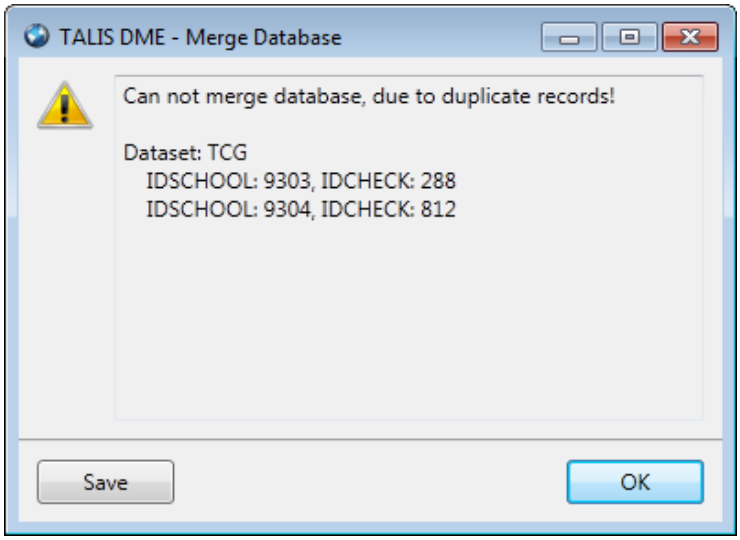


Figure 4-18: Message after failed database merging

4.3.7 Backing-up and restoring databases

381. To increase data security, the DME regularly creates backups which can be restored in case of loss or problems with your master database. An automatic backup is created every time you close a project. This default setting can be changed in the **Options** menu but is not recommended.

382. You can also create a backup on demand at any time using the **Project → Backup** option. After creating the backup a message will appear, confirming its location. It will be saved in the backup subfolder of your previously-defined project folder with the same format as, and with similar naming convention to, the automatic backup, *i.e. ProjectName_Date(YYMMDD)_Time(HHMMSS)*.

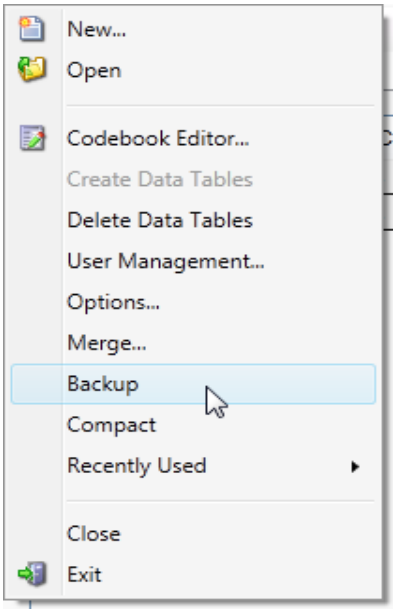


Figure 4-19: 'Project Backup' menu

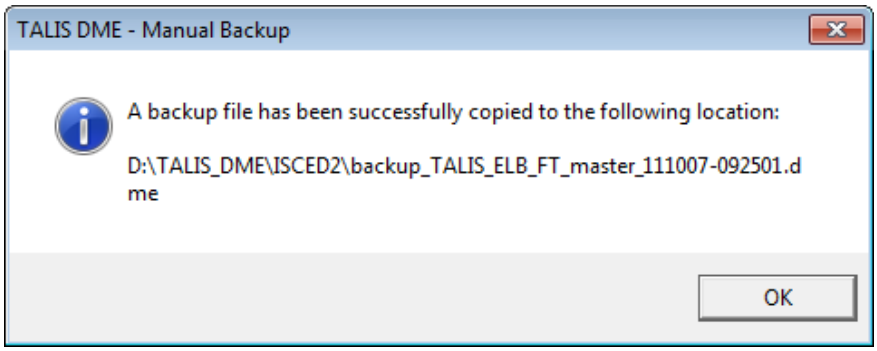


Figure 4-20: Confirmation of backup file creation

383. It is recommended that National Data Managers should apply a strategy for manual backups / backup on demand to increase the level of data security.

- Take care about the frequency with which you create manual backups
- Take care about the location you store the backups in general.

4.3.8 Protection of data files and materials

384. Countries should protect the confidential information and data collected in TALIS using the same degree of care, but no less than a reasonable degree of care, that the country uses to protect its own confidential information of a similar nature.

385. According to Standard 11.2, approved project staff working on TALIS at the national centre or a sub-contracted survey organisation must understand and obey confidentiality rules and practices in survey research and, regardless of their organisational affiliation, sign a confidentiality agreement or affidavit of nondisclosure.

386. In more pragmatic terms, databases and related material should be stored in access-limited network shares that only individually named and authorised users can access or change. Paper materials should be kept in secure, limited-access storage locations.

4.3.9 Maintenance interface

387. It is possible that the NDM will need help from the IEA DPC or that a general update of databases and codebooks becomes necessary. In this event, the IEA DPC may prepare batches of SQL statements that manipulate the database. This SQL script is produced by the IEA DPC and will be sent to the country via e-mail and/or it will be uploaded on the SharePoint server.

388. In order to run the provided script, select **Run SQL …** from the **Edit menu.**

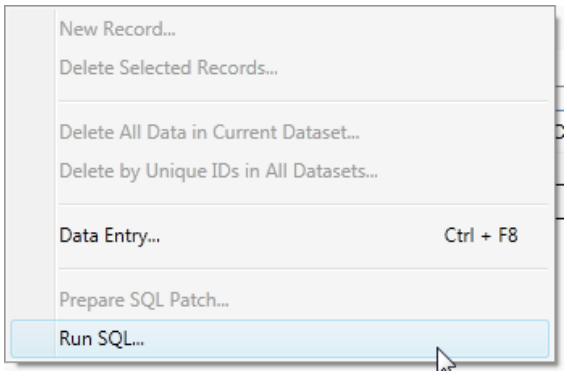


Figure 4-21: 'Run SQL' menu

389. Next, you have to point to the .xml patch file. Use the button in the upper right hand corner to show an 'open file' dialogue where you can select the file sent to you.

390. If the xml file is corrupt or adapted by a person that has no access to the DME as a Manager, the SQL statement will not be loaded.

391. If the xml file is authentic and can be executed, the manager has to confirm the running of the SQL script by clicking on the **OK** button.

4.3.10 Checklist

- ✓ Read and understand how to create, manage, backup, clone and merge projects.
- ✓ Read and understand how to create and manage user-level accounts.
- ✓ Understand and implement appropriate protection for files and materials.
- ✓ Understand the DME's xml patch mechanism that allows the IEA DPC to support countries with individual situations or to maintain codebooks and databases more generally.

4.4 Making National Adaptations

4.4.1 Overview

392. According to Standard 10.3, countries are required to reflect any national instrument adaptations agreed with the Consortium in the national codebooks.

393. This chapter describes the steps to do so, and in addition the guidelines and instructions to test for complete and functional codebooks.

394. The following illustrates the general workflow for the adaptation of the codebooks. If you intend to administer more than the TALIS core (ISCED Level 2), you will first need to finalise the adaptation of the ISCED Level 2 codebook, before you start this process for any other international option (ISCED Level 1, ISCED Level 3 or the TALIS-PISA link). This will ensure that you can reuse all of your adaptations that are common in your instruments of the TALIS core and any of the international options.

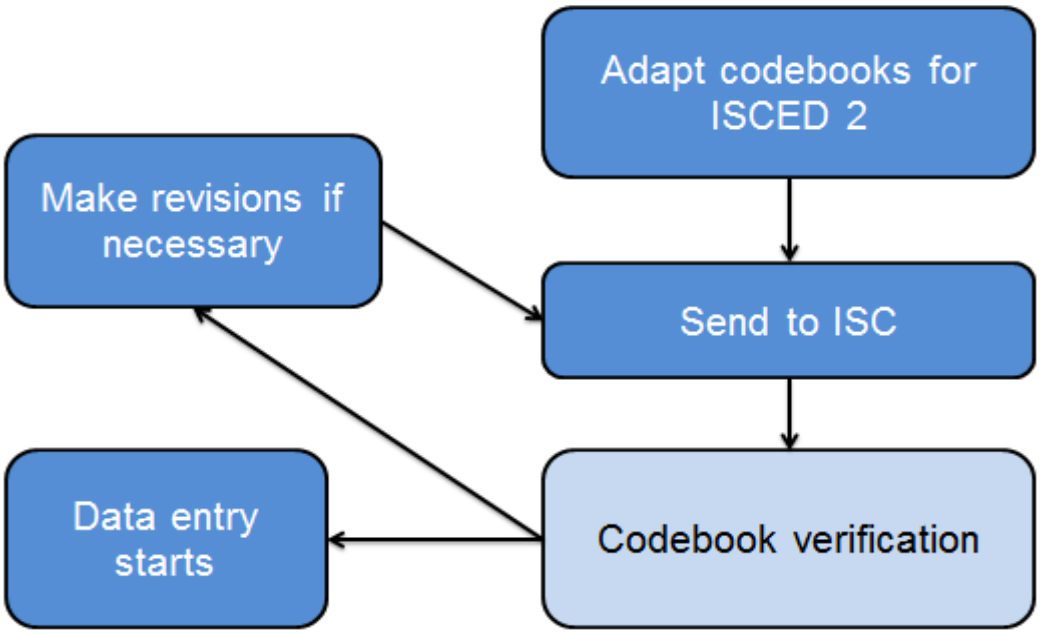


Figure 4-22: Workflow for the adaptation of the Core codebooks (ISCED Level 2)

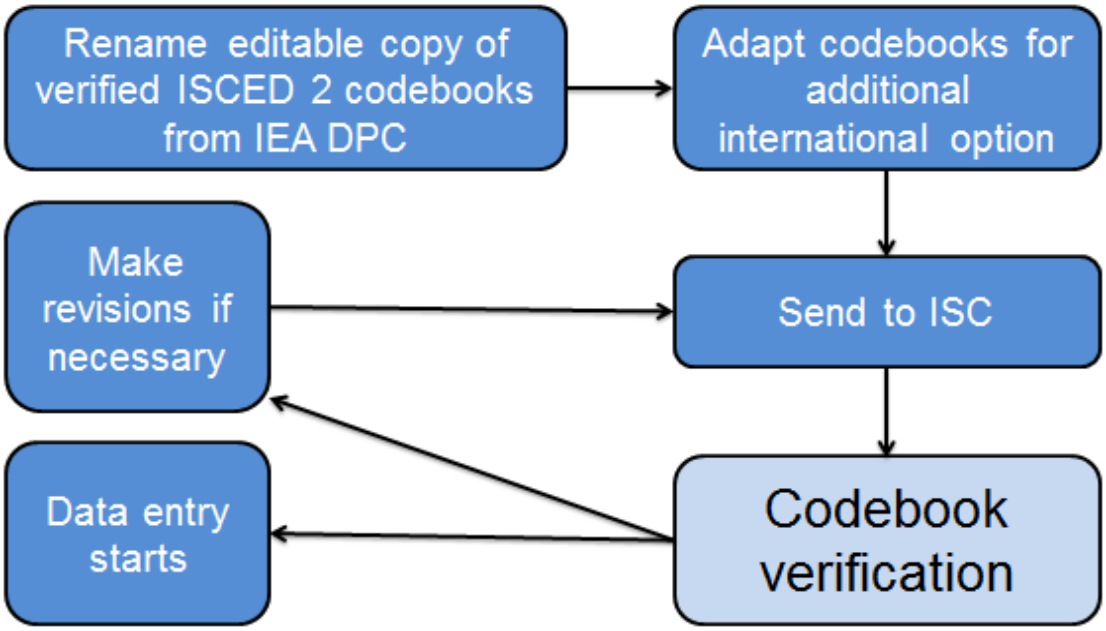
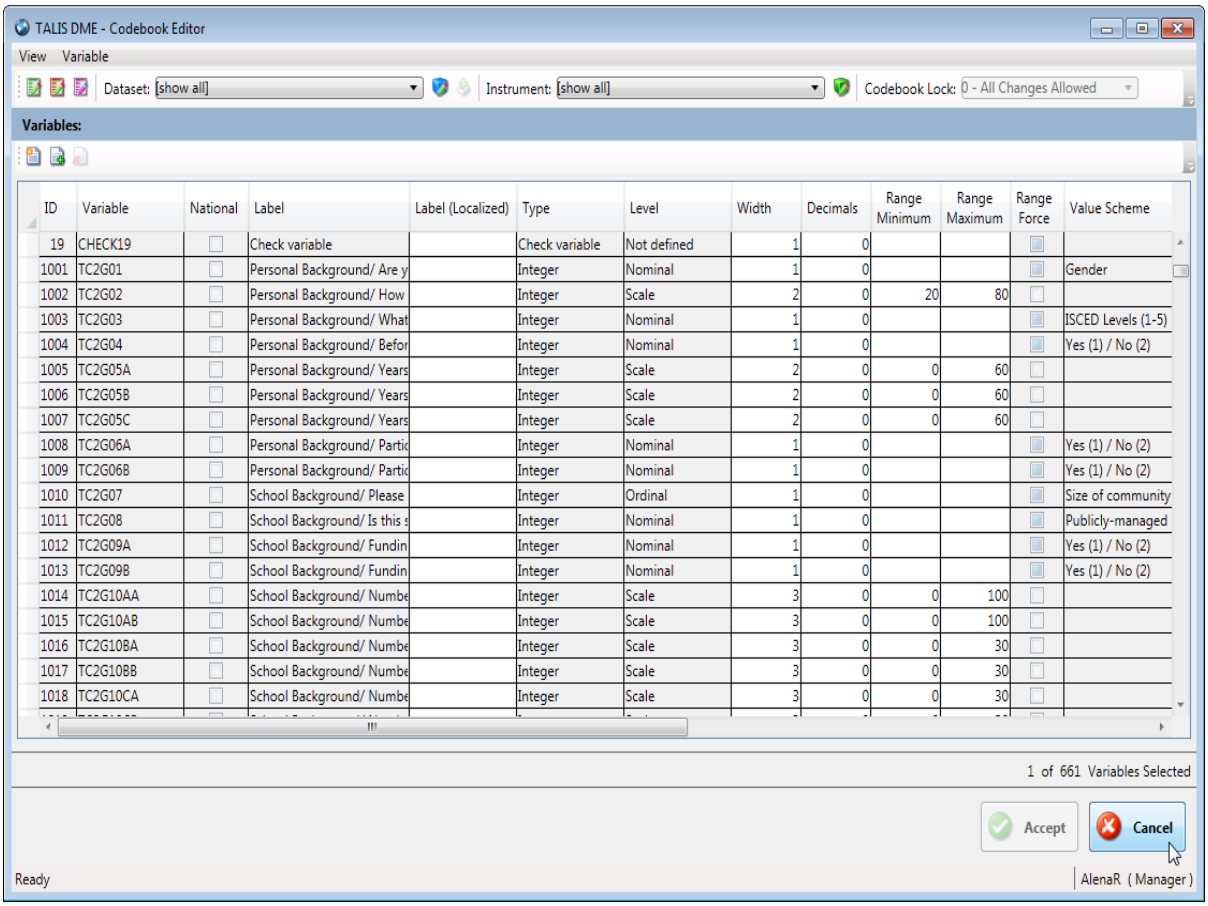


Figure 4-23: Workflow for the adaptation of the codebooks for additional international options

4.4.2 Reflecting national adaptations and extensions in the codebooks

395. In the DME software, variables are listed in tabular format where rows are variables and columns are variable attributes. For a full description of variable attributes please refer to section 4.2.2.1.



ID	Variable	National	Label	Label (Localized)	Type	Level	Width	Decimals	Range Minimum	Range Maximum	Range Force	Value Scheme
19	CHECK19		Check variable		Check variable	Not defined	1	0				
1001	TC2G01		Personal Background/ Are y		Integer	Nominal	1	0				Gender
1002	TC2G02		Personal Background/ How		Integer	Scale	2	0	20	80		
1003	TC2G03		Personal Background/ What		Integer	Nominal	1	0				ISCED Levels (1-5)
1004	TC2G04		Personal Background/ Befor		Integer	Nominal	1	0				Yes (1) / No (2)
1005	TC2G05A		Personal Background/ Years		Integer	Scale	2	0	0	60		
1006	TC2G05B		Personal Background/ Years		Integer	Scale	2	0	0	60		
1007	TC2G05C		Personal Background/ Years		Integer	Scale	2	0	0	60		
1008	TC2G06A		Personal Background/ Partic		Integer	Nominal	1	0				Yes (1) / No (2)
1009	TC2G06B		Personal Background/ Partic		Integer	Nominal	1	0				Yes (1) / No (2)
1010	TC2G07		School Background/ Please		Integer	Ordinal	1	0				Size of community
1011	TC2G08		School Background/ Is this s		Integer	Nominal	1	0				Publicly-managed
1012	TC2G09A		School Background/ Fundin		Integer	Nominal	1	0				Yes (1) / No (2)
1013	TC2G09B		School Background/ Fundin		Integer	Nominal	1	0				Yes (1) / No (2)
1014	TC2G10AA		School Background/ Numbe		Integer	Scale	3	0	0	100		
1015	TC2G10AB		School Background/ Numbe		Integer	Scale	3	0	0	100		
1016	TC2G10BA		School Background/ Numbe		Integer	Scale	3	0	0	30		
1017	TC2G10BB		School Background/ Numbe		Integer	Scale	3	0	0	30		
1018	TC2G10CA		School Background/ Numbe		Integer	Scale	3	0	0	30		

Figure 4-24: Rows and columns in the DME variable list

4.4.2.1 Understanding international and national variables

396. Along with the DME setup, countries are provided with the international codebooks. This should be used as the template from which adaptations for national use are applied. The international codebooks contain all variables that are due to be submitted to the Consortium after data collection. These variables are assembled in datasets and the datasets contain certain instruments that will be used for manual data entry. Variables are sequenced in the instruments according to their position in the physical paper instrument for this purpose. For details on variables, datasets and instruments please refer to Chapter 4.2 of this manual.

397. The general goal is to include all international, as well as national, data in a country's database for submission to the Consortium. In order to do so, the international master codebooks need to be adapted to reflect national instruments, *i.e.* all adaptations and extensions applied to the national instruments need to be reflected in the DME as well. These adaptations may include the creation and specification of national variables and value schemes as well as the adaptation of valid ranges for international variables.

Please Note!

The adaptation of the international codebooks to reflect the national instruments is a NDM/NPM responsibility and needs to be performed according to instructions and guidelines given in this manual.

The participation in the Data Management Training conducted by the IEA DPC is mandatory and of crucial importance for the appropriate person(s) in a country! Hands-on training on all aspects of the DME and its use were given, as well as personalised support on country specific needs.

398. Therefore an important element of the international codebook is the 'National' field. It is deactivated by default for all international variables (see section 4.2.2.1).

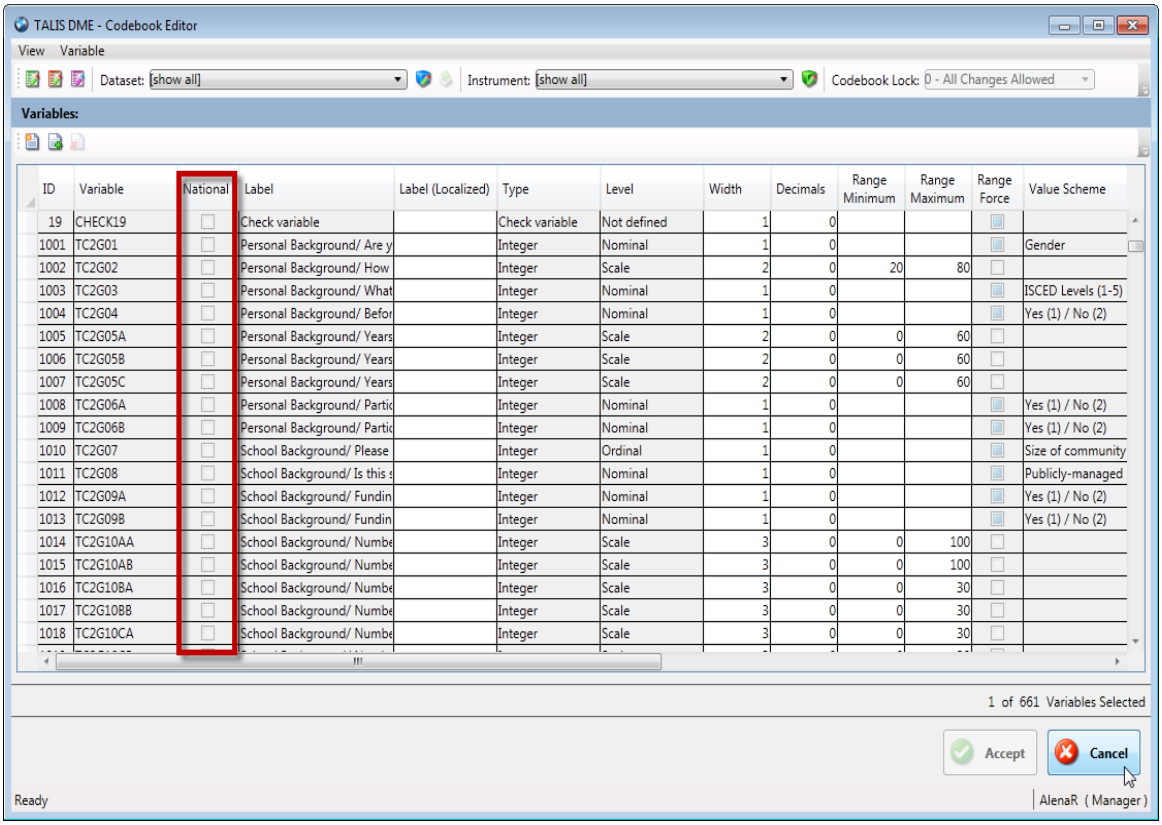


Figure 4-25: Deactivated national variable flags for international variables

399. As soon as a new variable is inserted or an existing variable is copied into the codebook, this field will be automatically activated (see **Figure 4-26**). The main purpose of this field is to distinguish the pre-configured international variables, with limited edit rights for Managers, from the adapted or newly created national variables with full edit rights for Managers. The 'National' field is non-editable.

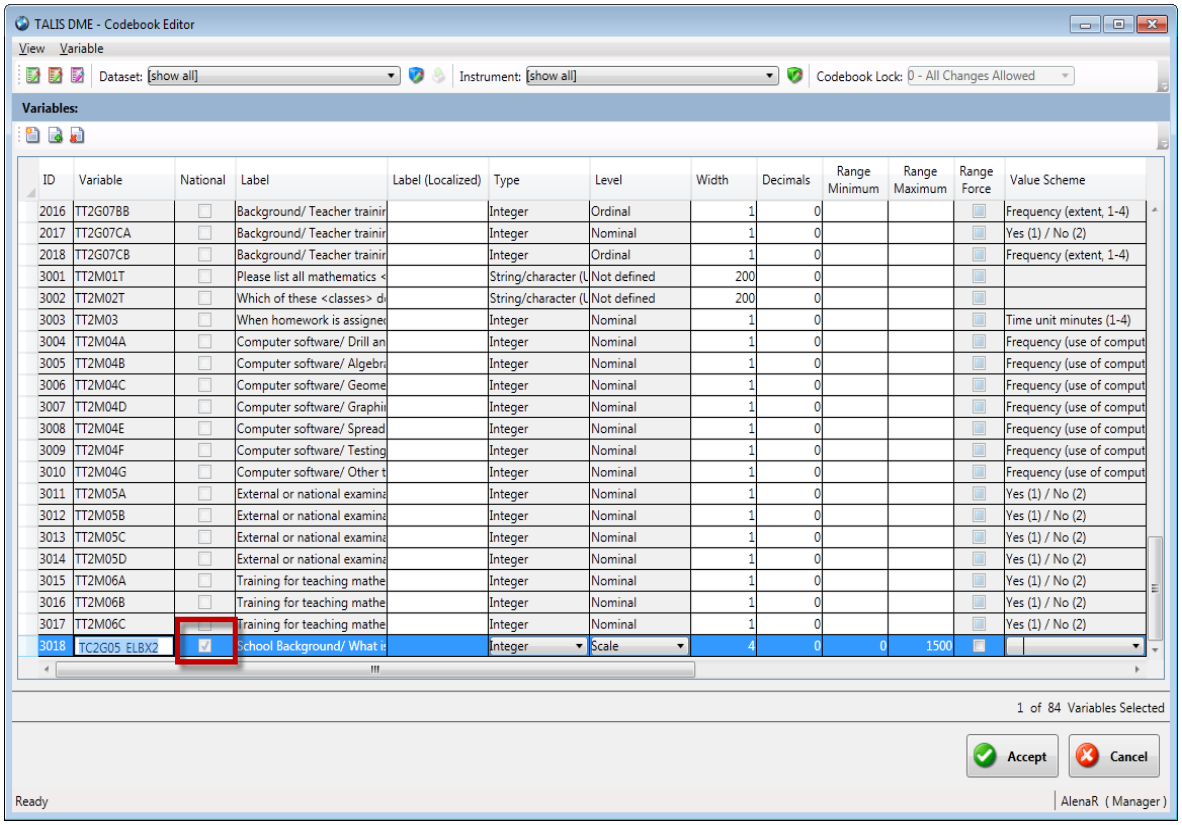


Figure 4-26: National variable flag after inserting a variable

4.4.2.2 Materials needed for codebook adaptation

400. All country-specific adaptations of the international questionnaires should be approved and agreed upon by the participating country and the Consortium at this stage. The national codebooks should perfectly reflect these adaptations to your national instruments.

401. Each single national adaptation and all agreed recoding instructions are documented in the NAF (National Adaptation Form). It is the main reference for adapting the national codebook as it contains information on:

- All international items, corresponding response categories and value schemes
- Any changes to international item text (stem)
- All translations and cultural adaptations of the item stem and response options
- All variations from the recommended response categories and value schemes
- All country-specific extensions of questionnaire items
- Sequencing of all items and variables

4.4.2.3 Starting codebook adaptation

402. In order to reflect all country-specific adaptations it is necessary to adapt the codebook accordingly. In DME there are several editors to implement certain adaptations, the most important of which is the Codebook Editor.

403. After having opened your project (see Figure 4-27) and logged into the system (Figure 4-28) you can access the Codebook Editor from the Project menu (Figure 4-29) or directly by clicking the Codebook Editor icon in the main window (Figure 4-30).

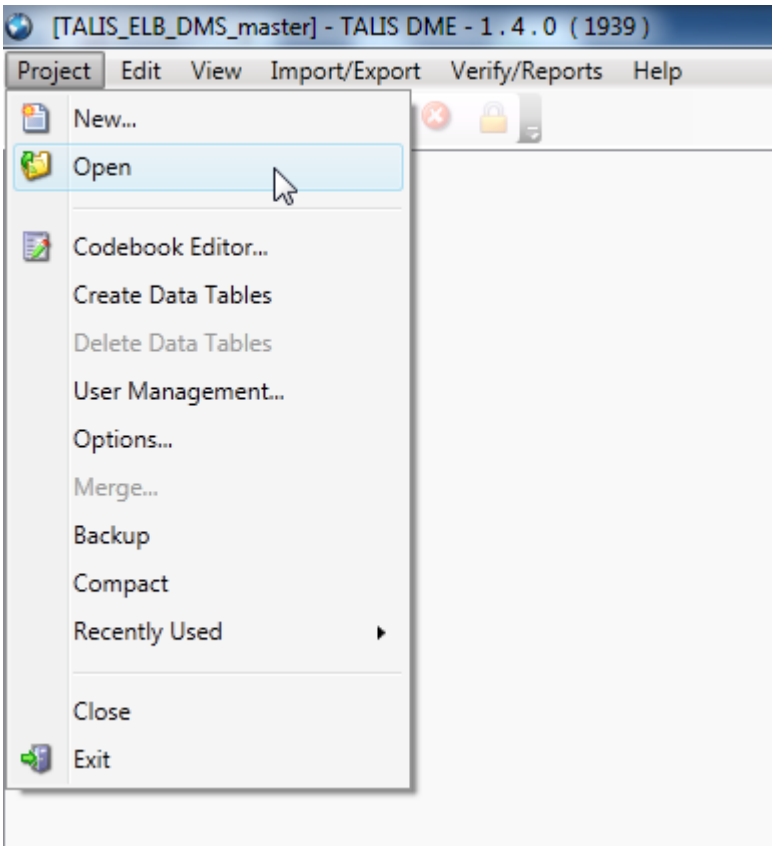


Figure 4-27: 'Open Project' for codebook editing

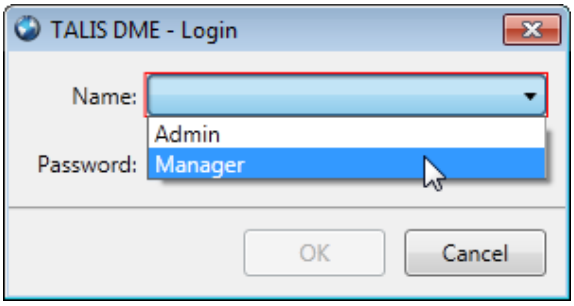


Figure 4-28: Login for codebook editing

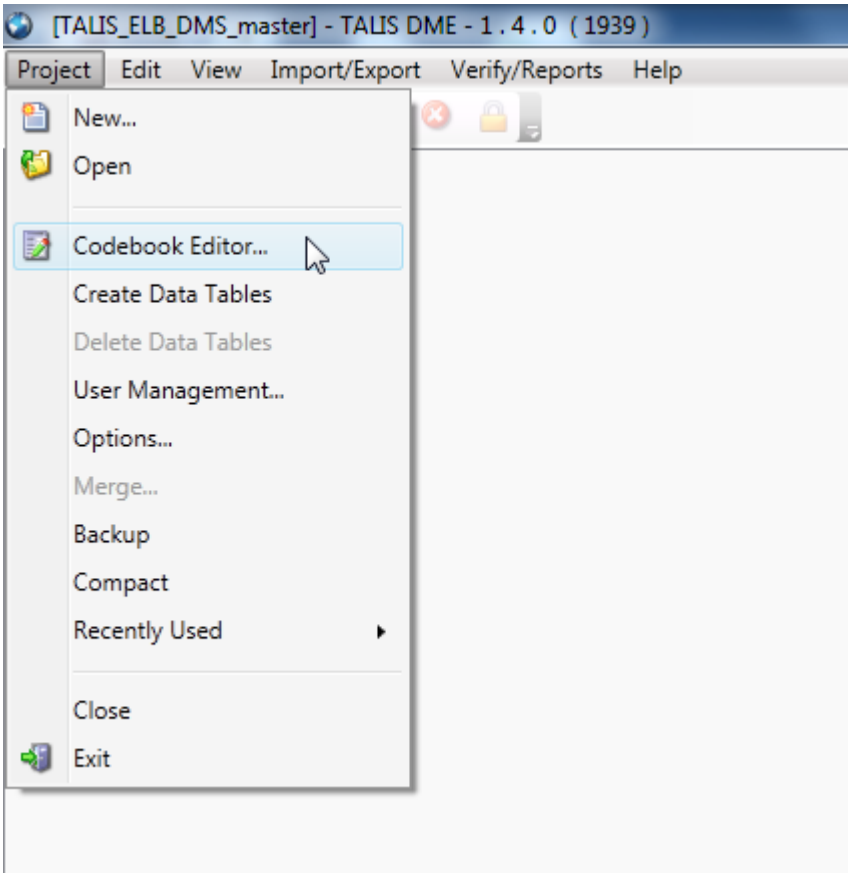


Figure 4-29: Codebook Editor menu

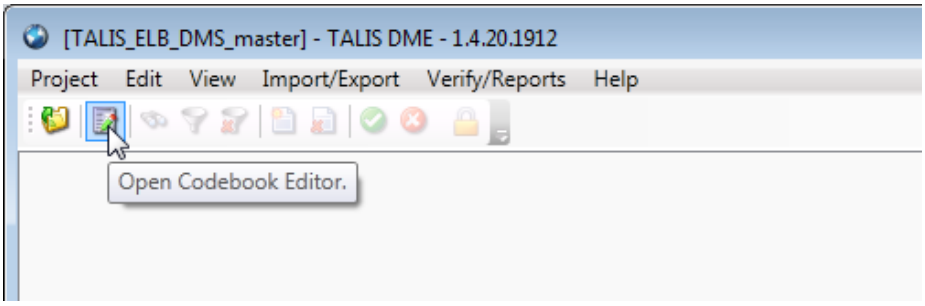


Figure 4-30: Open Codebook Editor

404. Figure 4-31 shows the Codebook Editor main view. All fields that can be edited in the Codebook Editor are indicated by a white background colour. The scope of editable fields depends on your login role (*i.e.*, Administrator or Manager). For all international variables the fields Label (localized), Width, Decimals, Range Minimum, Range Maximum, Data Entry Hidden and Suppressed can be edited by Managers. Non-editable fields have a grey background.

Please Note!

Once your codebook has been verified and locked by the DPC, none of the codebook fields are editable.

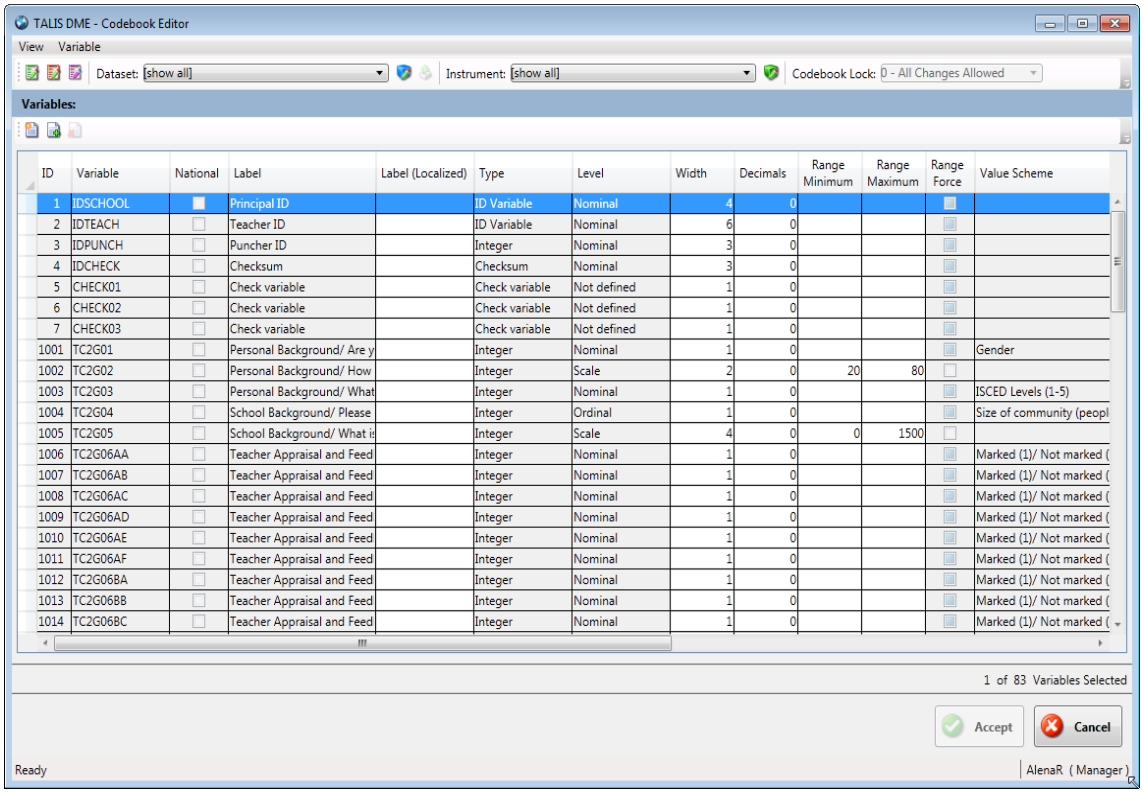


Figure 4-31: Codebook Editor

405. You can access the other editors in DME via the **View** menu options; **Dataset Editor**; **Instrument Editor**; **Value Scheme Editor**; **Missing Scheme Editor**; and **Variable Domain Editor** (see Figure 4-32) or by clicking on their respectively icons in the Codebook Editor main window (see Figure 4-33).

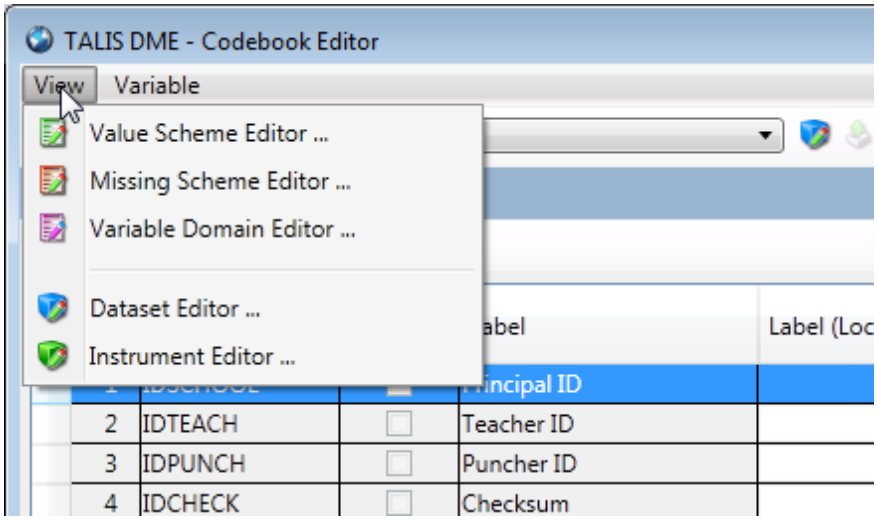


Figure 4-32: Accessing editors from 'View' menu in the Codebook Editor

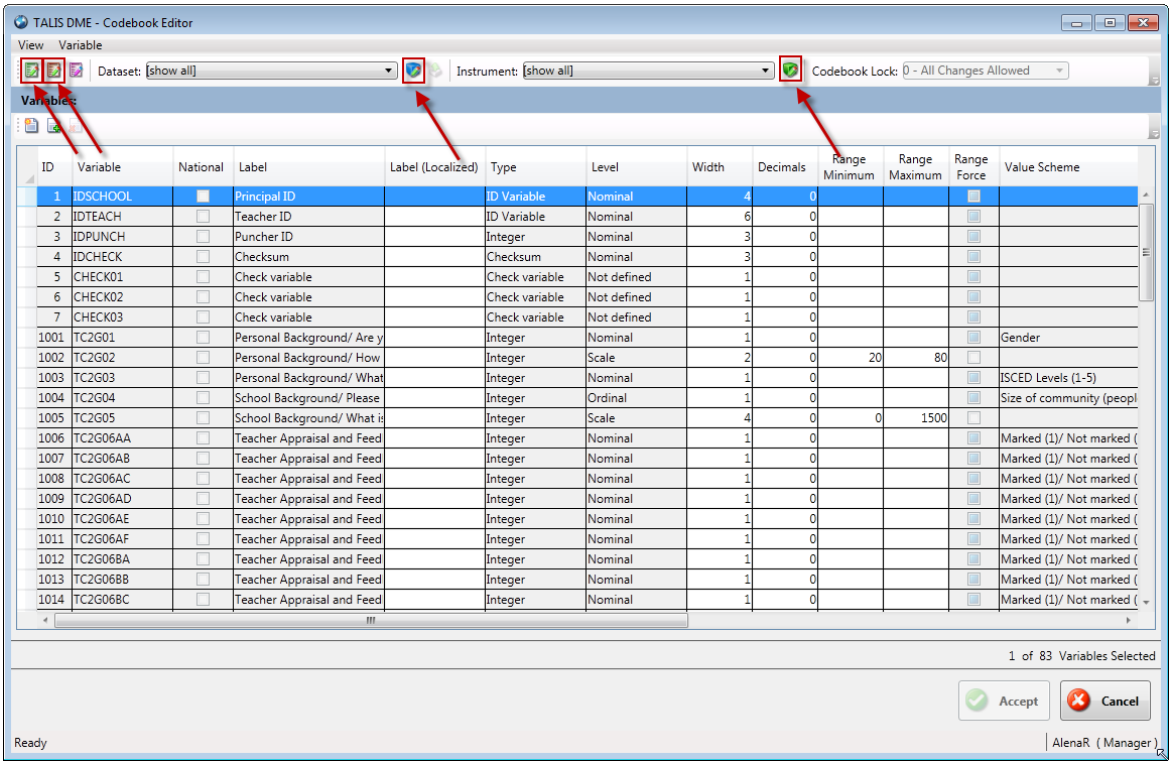


Figure 4-33: Accessing editors from icons in Codebook Editor

4.4.2.4 Adapting valid ranges for international variables

406. All country-specific ranges deviating from the internationally-predefined ranges have to be adapted in the codebook accordingly. You can change the minimum and maximum range in the corresponding columns. (see Figure 4-34)

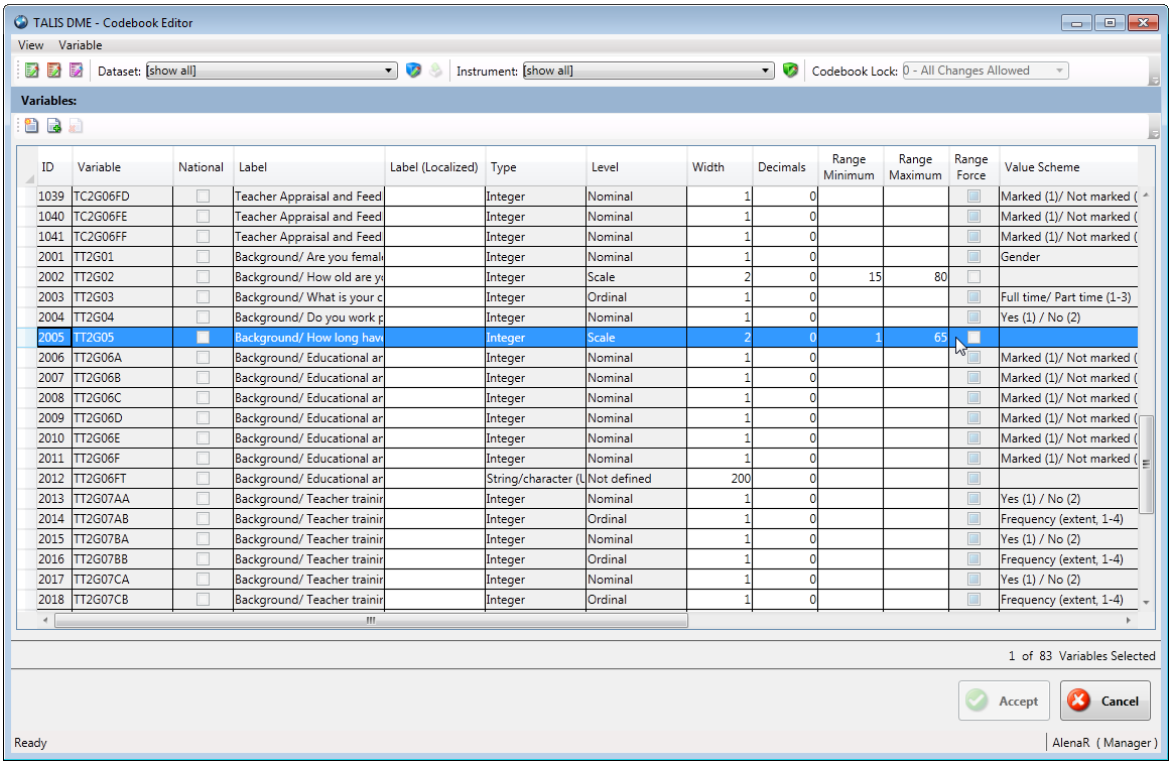


Figure 4-34: Minimum and maximum ranges

407. Select the variable for which the range needs adaptation and click into the corresponding cell in one of the columns mentioned above. You can specify a new range afterwards (see Figure 4-35). If you extend the range in such way that the number of digits also changes, you will need to adapt the width variable accordingly. The Codebook Editor's built-in validation logic will point you to any problems that arise during codebook adaptation. The affected variable will be highlighted and a tooltip with possible solution strategies will be shown when the mouse pointer is over that variable.

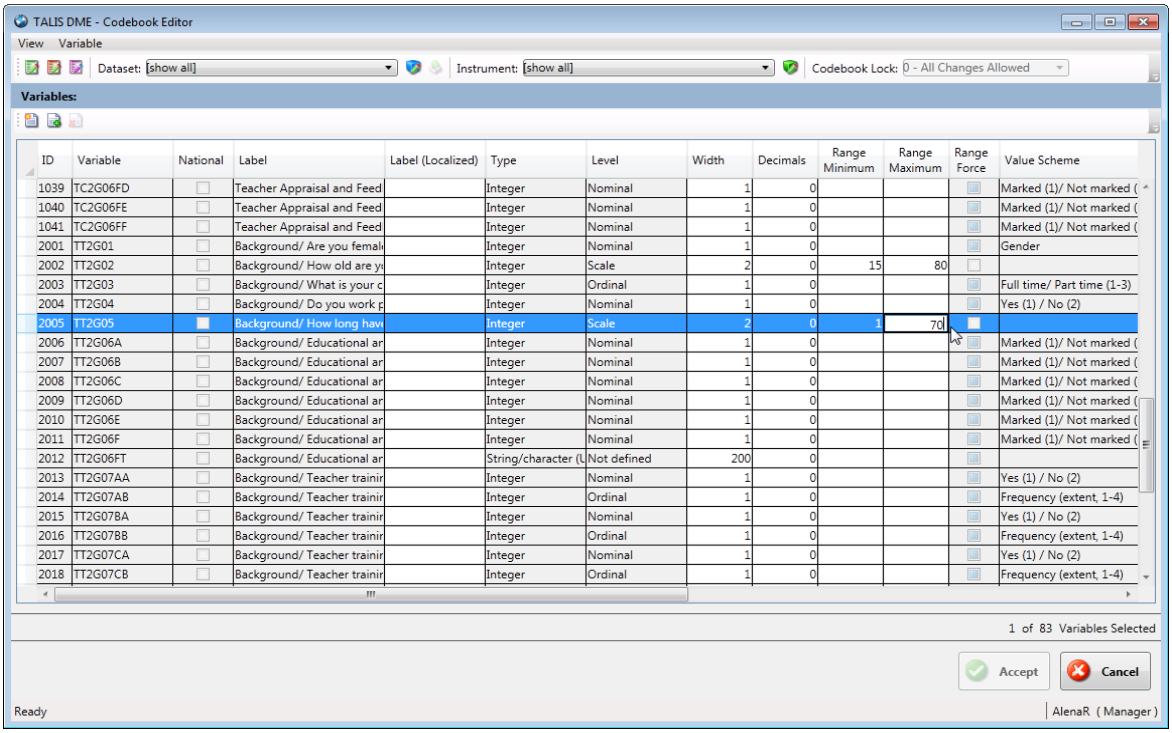


Figure 4-35: Edit range

408. Confirm the changes by clicking **Accept** (see Figure 4-36).

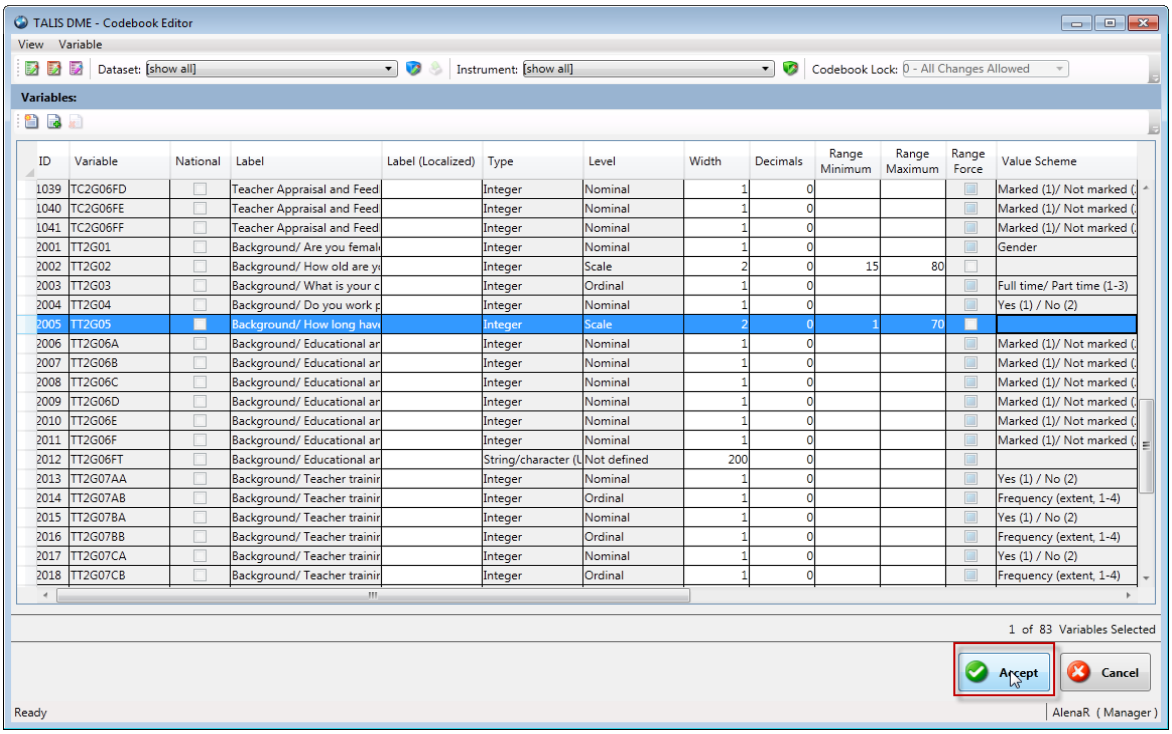


Figure 4-36: Accepting changes in the Codebook Editor

Please Note!

All adaptations performed in the Codebook Editor (including the creation of new variables) will only take effect when confirmed by clicking on the **Accept** button.

Leaving the Codebook Editor by clicking the **Cancel** button will lead to a loss of all current adaptations!

4.4.2.5 Adding new variables

409. Country-specific supplemental background questionnaire variables (*i.e.* national extensions) need to be added in the codebook as well. In order to do this, you can either create and insert a new variable or copy and adapt an existing international variable.

410. In order to create a new variable, select **New Variable** from the **Variable** menu (see Figure 4-37) within the **Codebook Editor** or click on the **New Variable** icon in the **Codebook Editor** main window (see Figure 4-38).

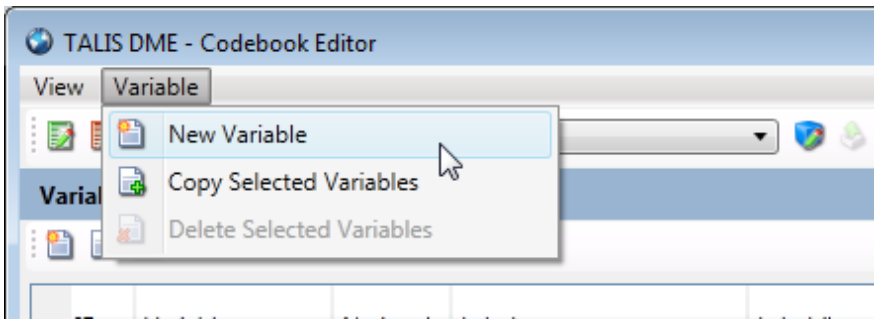


Figure 4-37: Creating a new variable from the 'Variable' menu in Codebook Editor

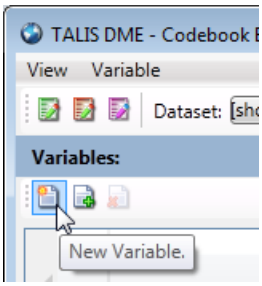


Figure 4-38: Creating a new variable using the icon in the Codebook Editor

411. After the new variable has been created (see Figure 4-39) you need to specify its attributes:

Table 4-1: The fields in the Codebook Editor

Codebook Editor Field	Adaptation	Required/ Optional
Variable	Please specify the variable name (*e.g.* TC2G06GA_ELB2 for adaptations or TC2G06GA_ELBX2 for extensions)	Required
National	Checked by default for new variables	Non-editable
Label	Please insert a new variable label in English language (required)	Required
Label (localized)	Please insert a new variable label in local language (optional)	Optional
Type	Please specify the variable type (*e.g.*, Integer, String, Numeric)	Required
Level	Please specify the variable level (*e.g.*, Ordinal, Ratio, Scale)	Required
Width	Please specify the variable width	Required
Decimals	Please specify the decimals the new variable will have, if necessary	Required
Range Minimum / Range Maximum	Please specify the variable range	Required
Range force	Please specify whether values for this variable must fall within the specified range (checked) or whether also values that are out of range but still fit with the width specified should be allowed (not checked)	Required
Value Scheme	Please select an existing value scheme for the new variable (create one if needed)	Optional
Missing Scheme	Please select a missing scheme for the new variable	Required
Data Entry Carry-On	Activated for IDLANG	Optional
Data Entry Hidden	Please mark this for international variables that you will not administer. This will leave them in the data structure, but it will be hidden in the data entry mask!	Optional
Data Entry Note	You might want to add a note concerning data entry of the new variable that will be displayed during manual data entry in DME	Optional
Domain	Please specify the domain of the variable (*e.g.* Background)	Required
Coverage	N.A.	
Suppressed	Please check in case the variable is not allowed to leave your country and should be suppressed when submitting your data.	Optional
Comment	Please insert any additional comment concerning the new variable	Optional

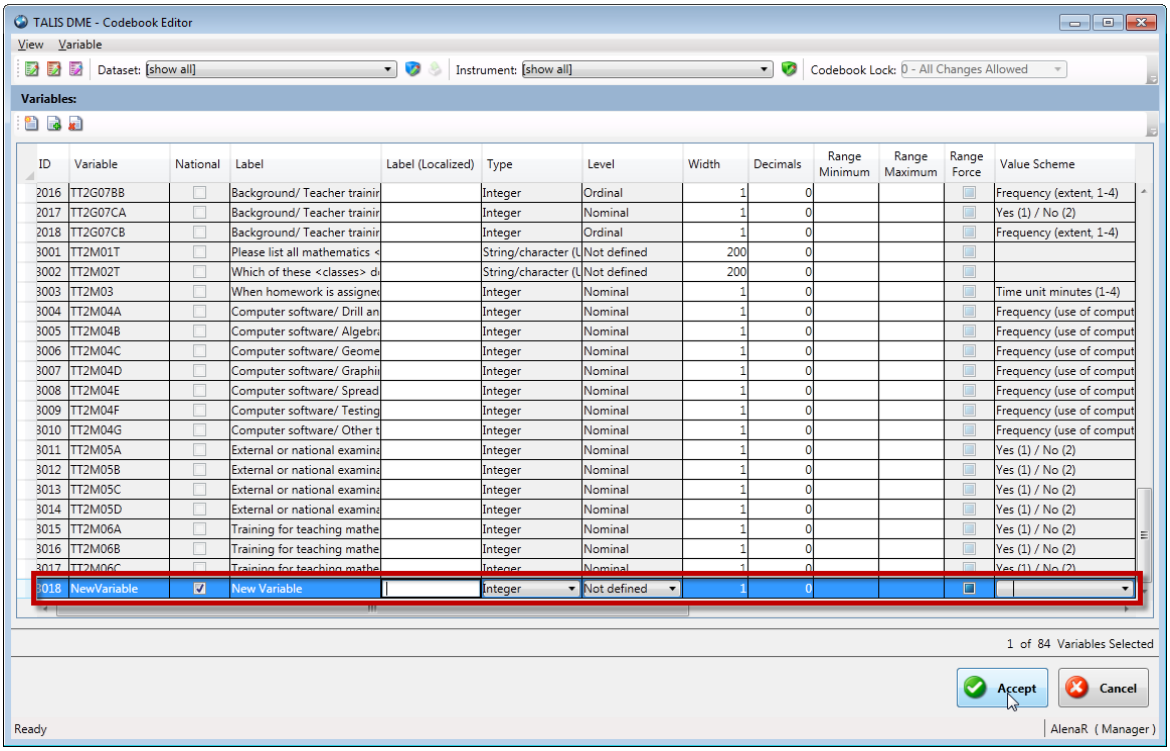


Figure 4-39: New variable in the Codebook Editor

412. To confirm your changes, click **Accept**.

4.4.2.6 Copying variables

413. To mark multiple variables use the “Ctrl” button on your keyboard, or “Ctrl” and “Shift” to select a range. Afterwards select **Copy Selected Variables** from the **Variable** menu (see Figure 4-40) within the Codebook Editor or click on the **Copy Selected Variables** icon (see Figure 4-41).

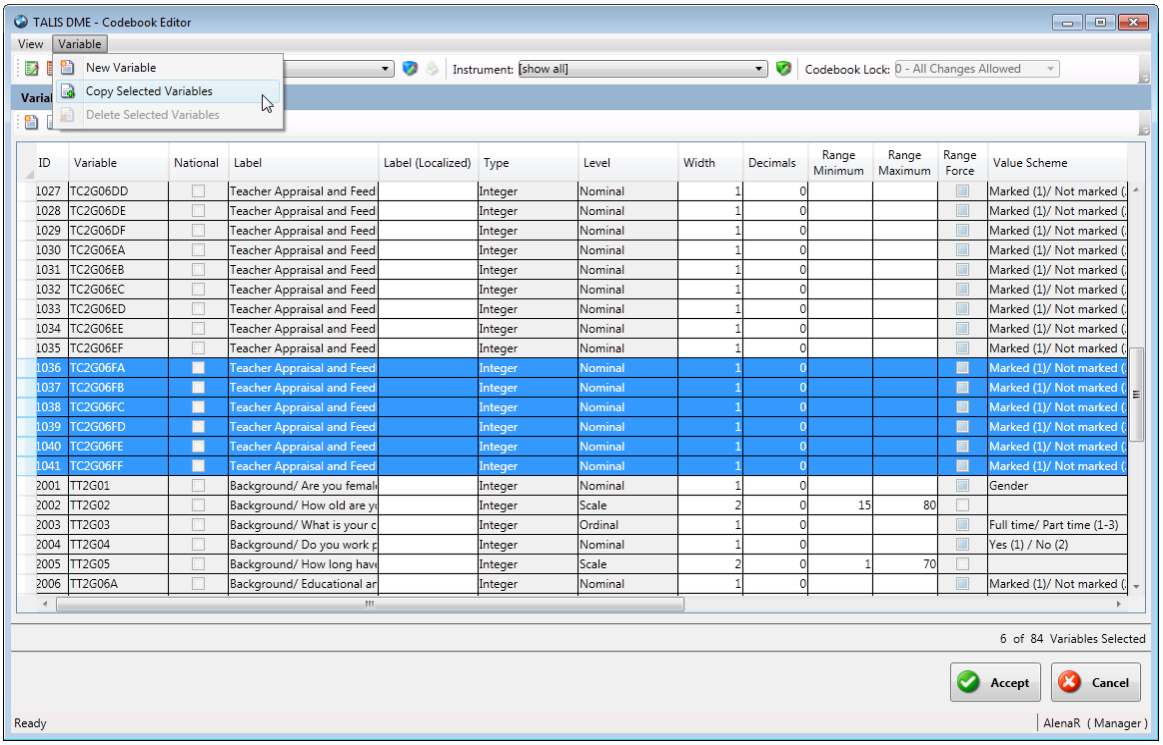


Figure 4-40: Copying a variable via the ‘Variable’ menu in the Codebook Editor

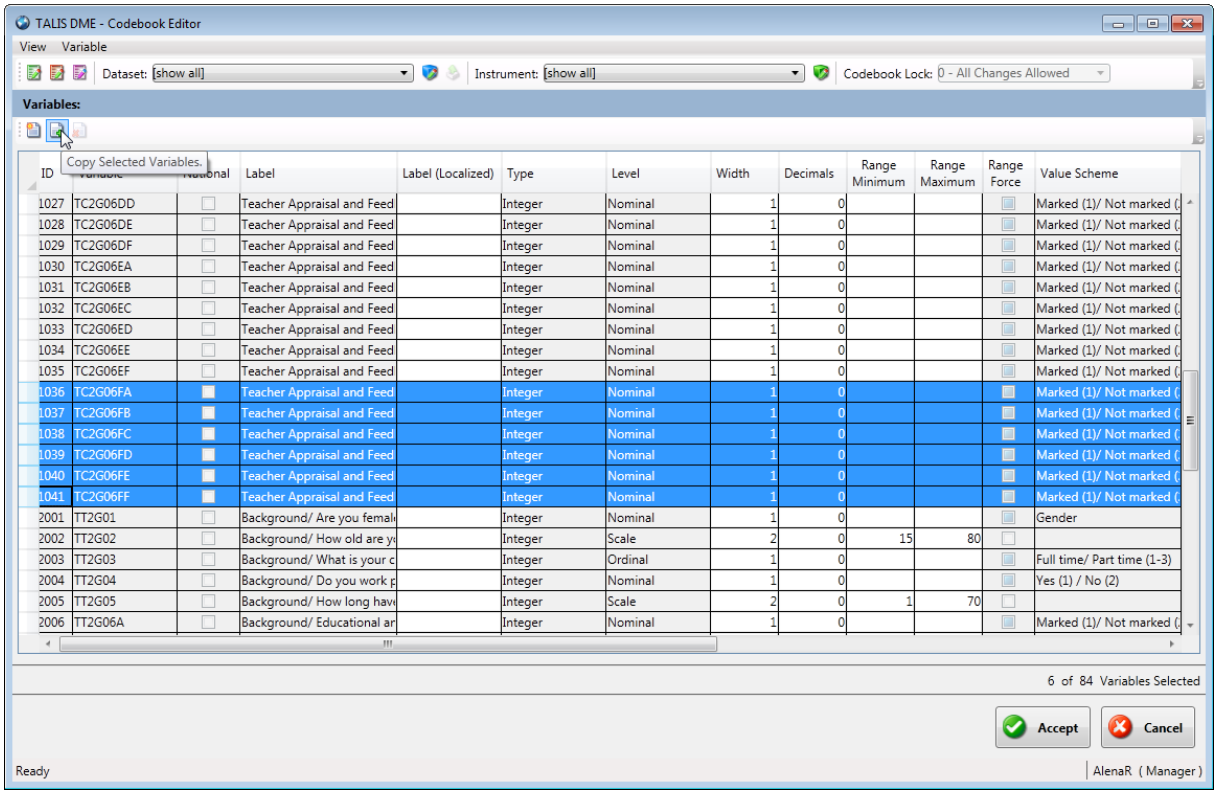


Figure 4-41: Copying a variable using the icon in the Codebook Editor

414. You will be asked to specify the copy mode for the selected variable(s) (see Figure 4-42).

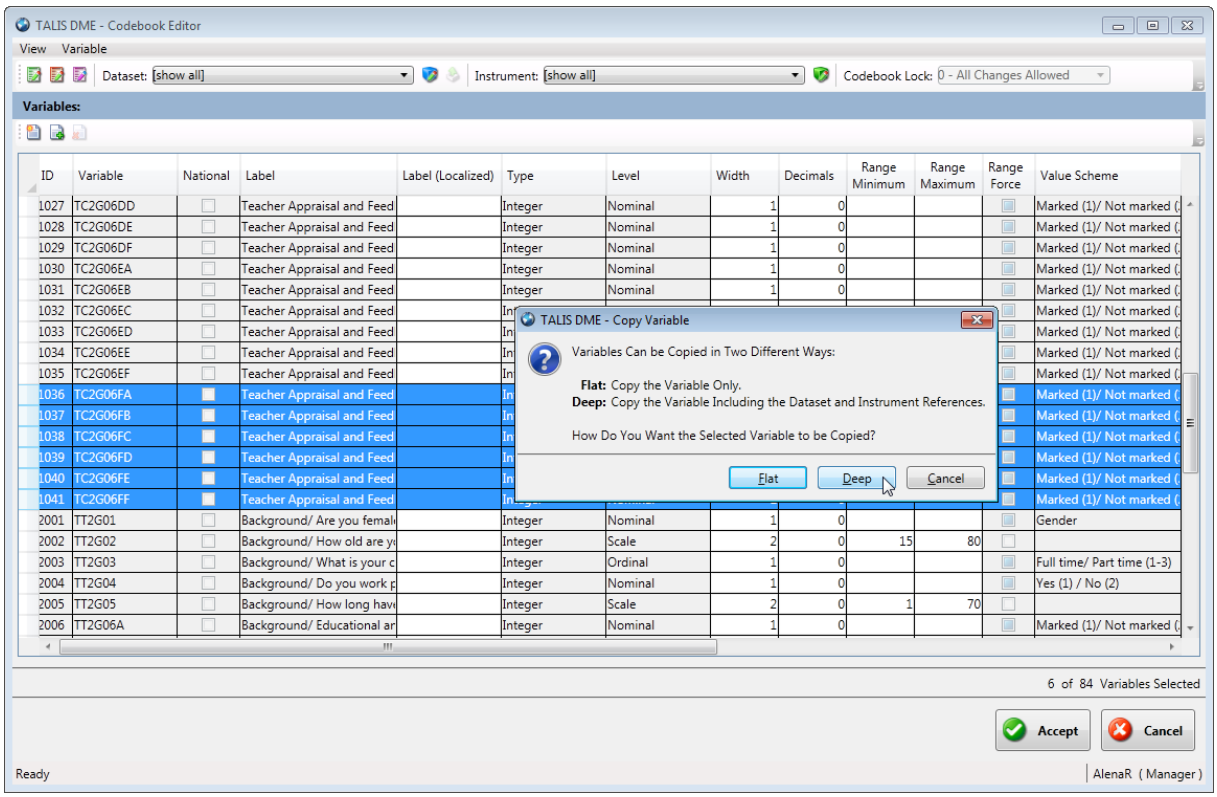


Figure 4-42: Copy Variable flat/deep dialogue

415. Choosing the **Flat** copy mode, the new variable will contain all properties of the original variable. However, no references to datasets and/or instruments will be kept. The new variable will need to be assigned to the desired datasets and instruments.

416. Choosing the **Deep** copy mode, the new variable will contain all attributes of the original variable including all references to datasets and/or instruments. Thus, the newly created variable will be available in all datasets and instruments in which the original variable is referenced.

417. Figure 4-43 shows the copied variables that have been added to the codebook.

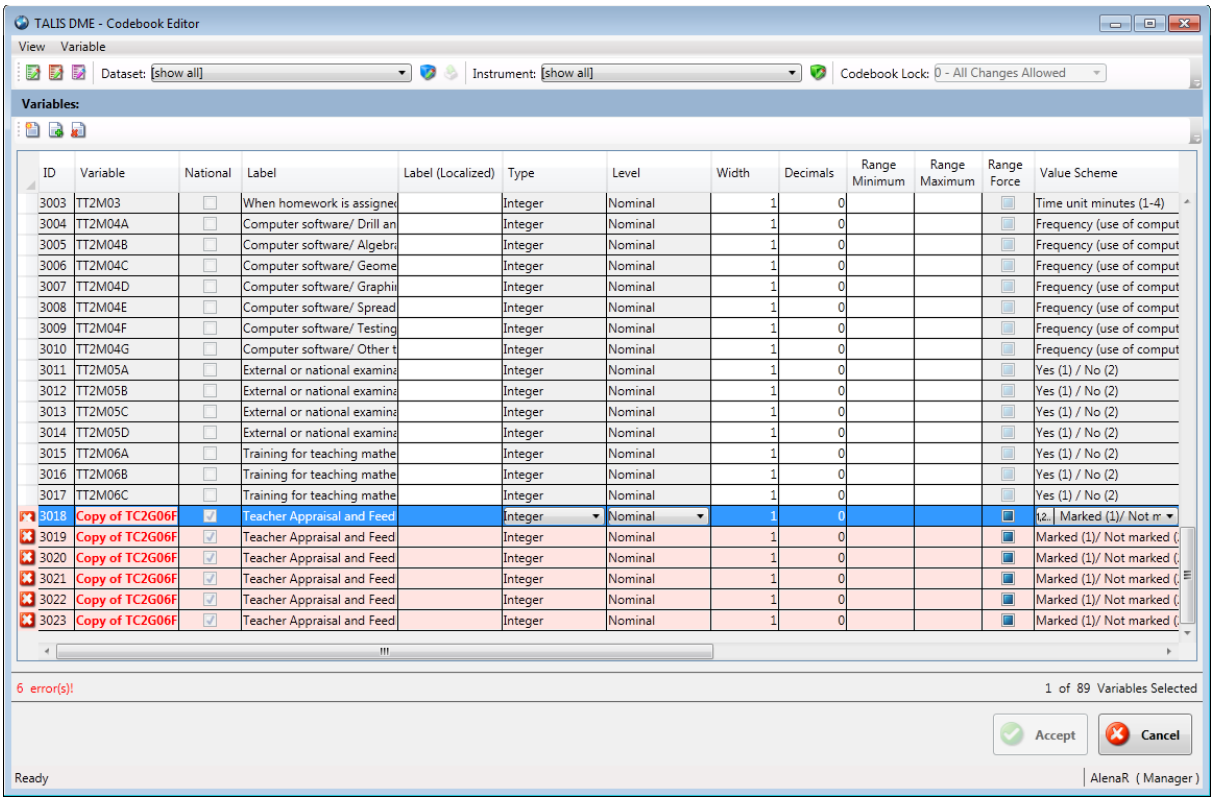


Figure 4-43: Copied variables

418. The country-specific attributes of each copied variable need to be specified, as already described above (see Table 4-1).

4.4.2.7 Hiding international variables for manual data entry

419. The DME software does not allow for deletion of any internationally-defined variable because the national databases need to contain both all internationally-defined and all nationally-defined variables.

4.4.2.8 Sequencing new variables in a dataset

420. You can sequence all variables in the Dataset Editor. The starting point is the Codebook Editor.

421. After the creation of variables you can open the Dataset Editor by clicking on the button. The dataset editor will open and you can assign the variables to a dataset as shown below.

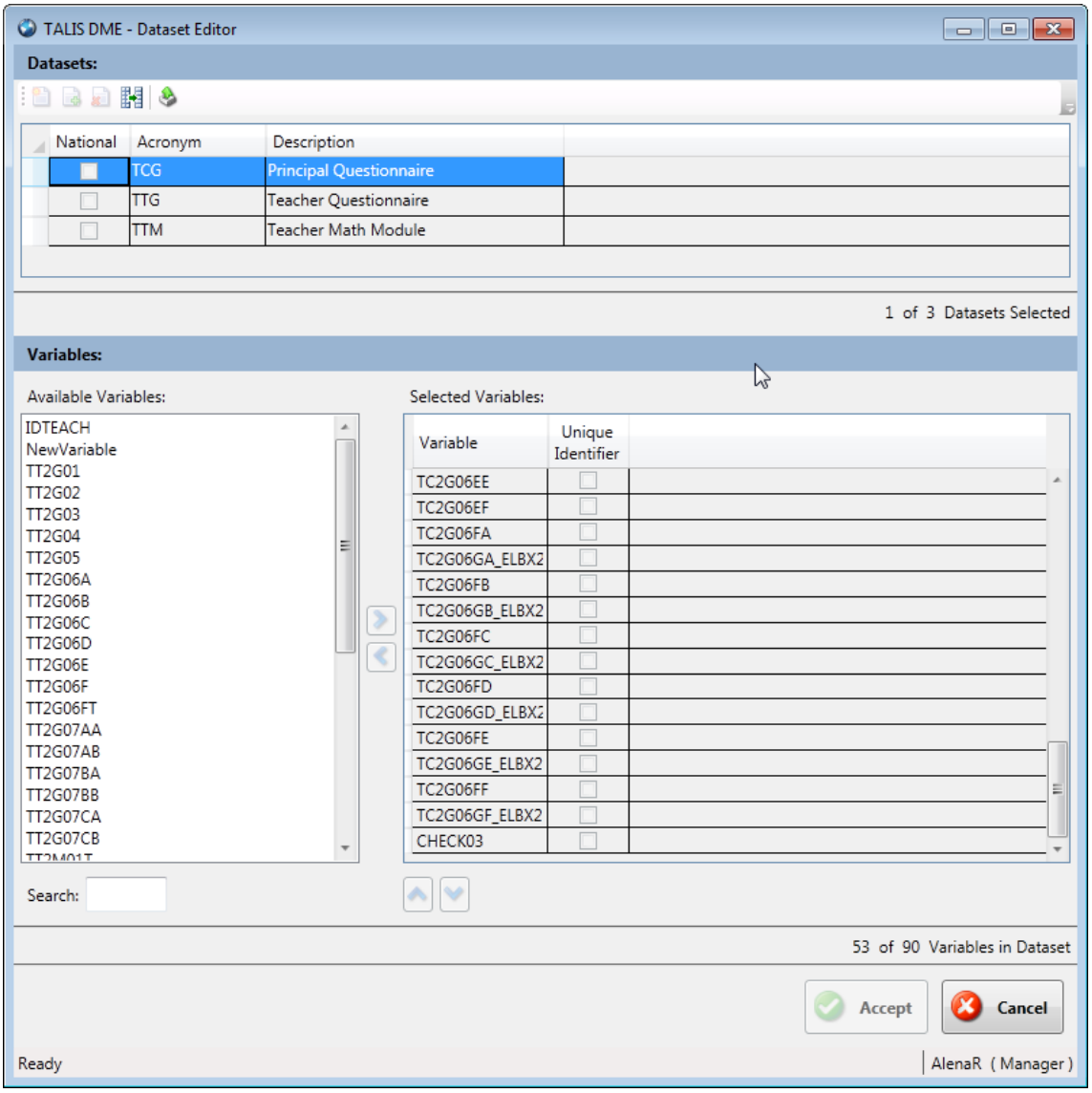


Figure 4-44: Dataset Editor – Principal Questionnaire dataset selected

422. As you can see in the image above, the order of variables inside the dataset TCG is TC2G06FA, TC2G06GA_ELBX2, TC2G06FB, TC2G06GB_ELBX2, … If you wanted to change the order of variables such that TC2G06FB comes after TC2G06FA in the list, you would first need to click on TC2G06GA_ELBX2, so that it is marked as selected in blue.

423. To move the variable downwards, click on the blue down-arrow button . As you can see below, TC2G06GA_ELBX2 has swapped position with TC2G06FB, which is now in first place in the order of variables. In general, the order of the variables inside a dataset is not of crucial importance, but nevertheless sequencing variables in datasets might simplify your work. For instance, if you integrate a new question into your questionnaire and you move the variables belonging to the new question in the same order as they are printed in the questionnaire, it will be much easier to review data later on.

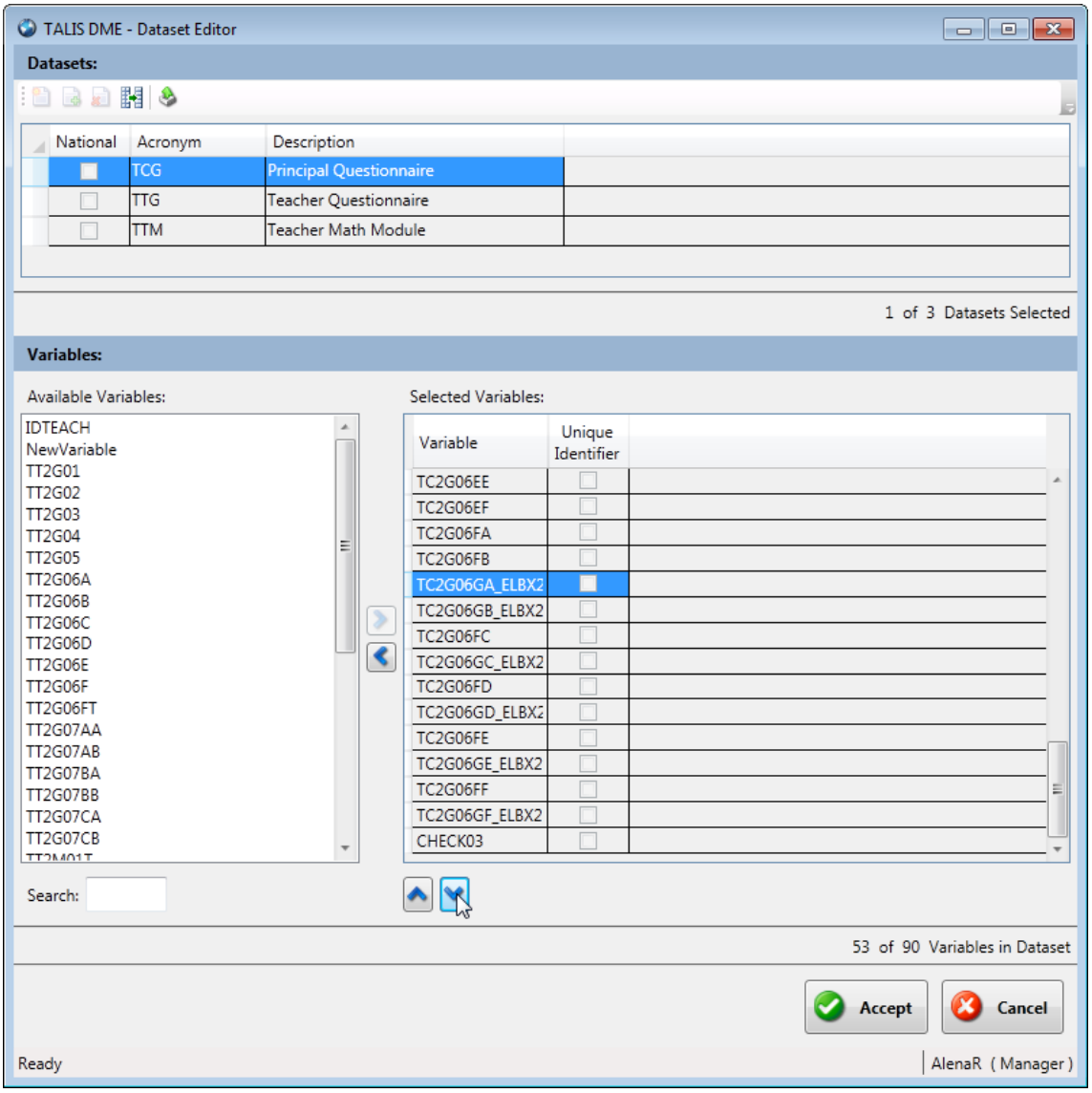


Figure 4-45: Dataset Editor – variable TC2G06GA_ELBX2 selected

424. You can also move several variables at once by selecting these variables while pressing the 'Shift' key and clicking on the blue down-arrow (see Figure 4-45). All variables selected will be moved below the next variable below the selected group.

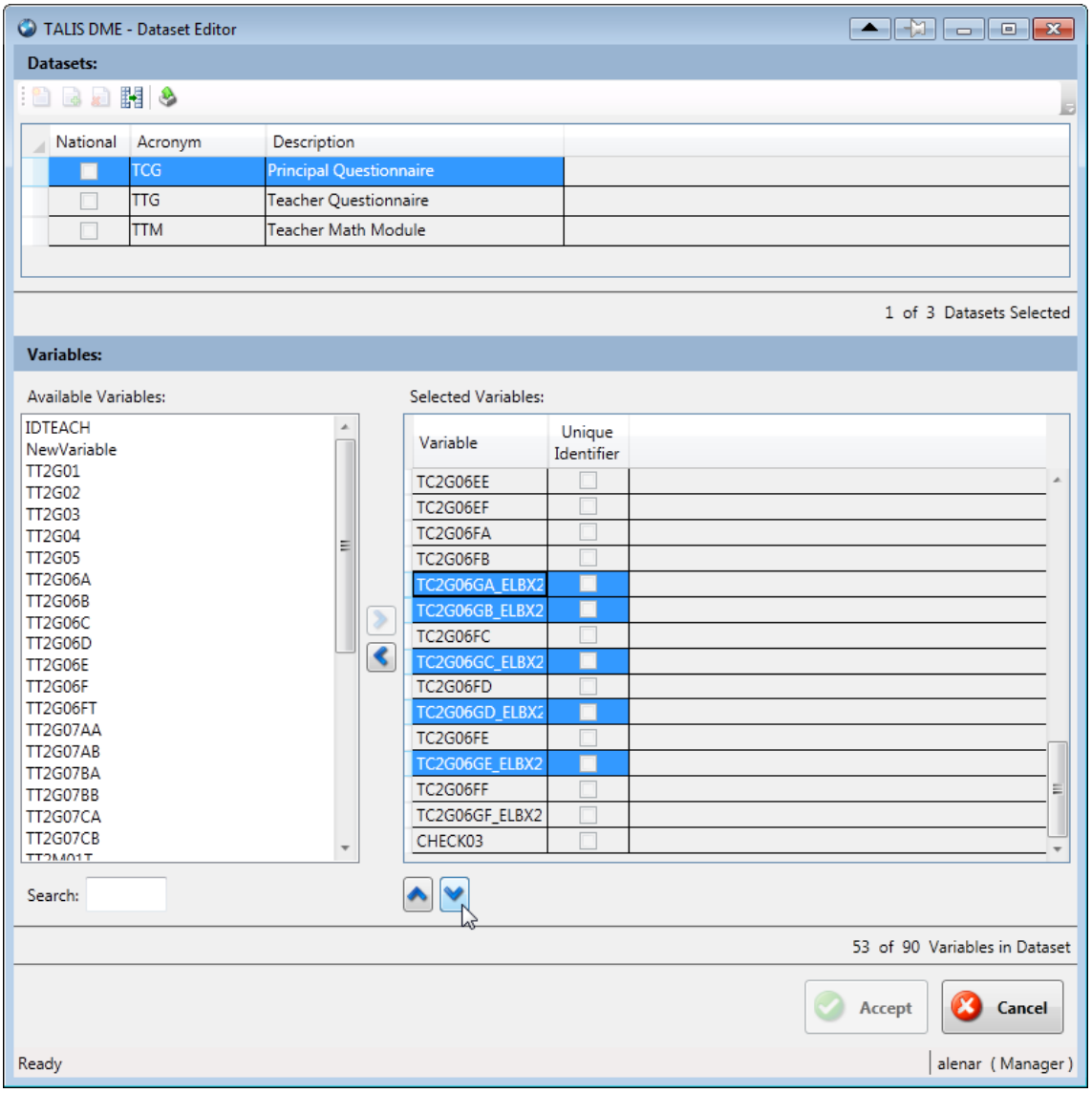


Figure 4-46: Dataset Editor – selection of several variables to move down

425. After clicking the blue down-arrow , the order will be as in Figure 4-47:

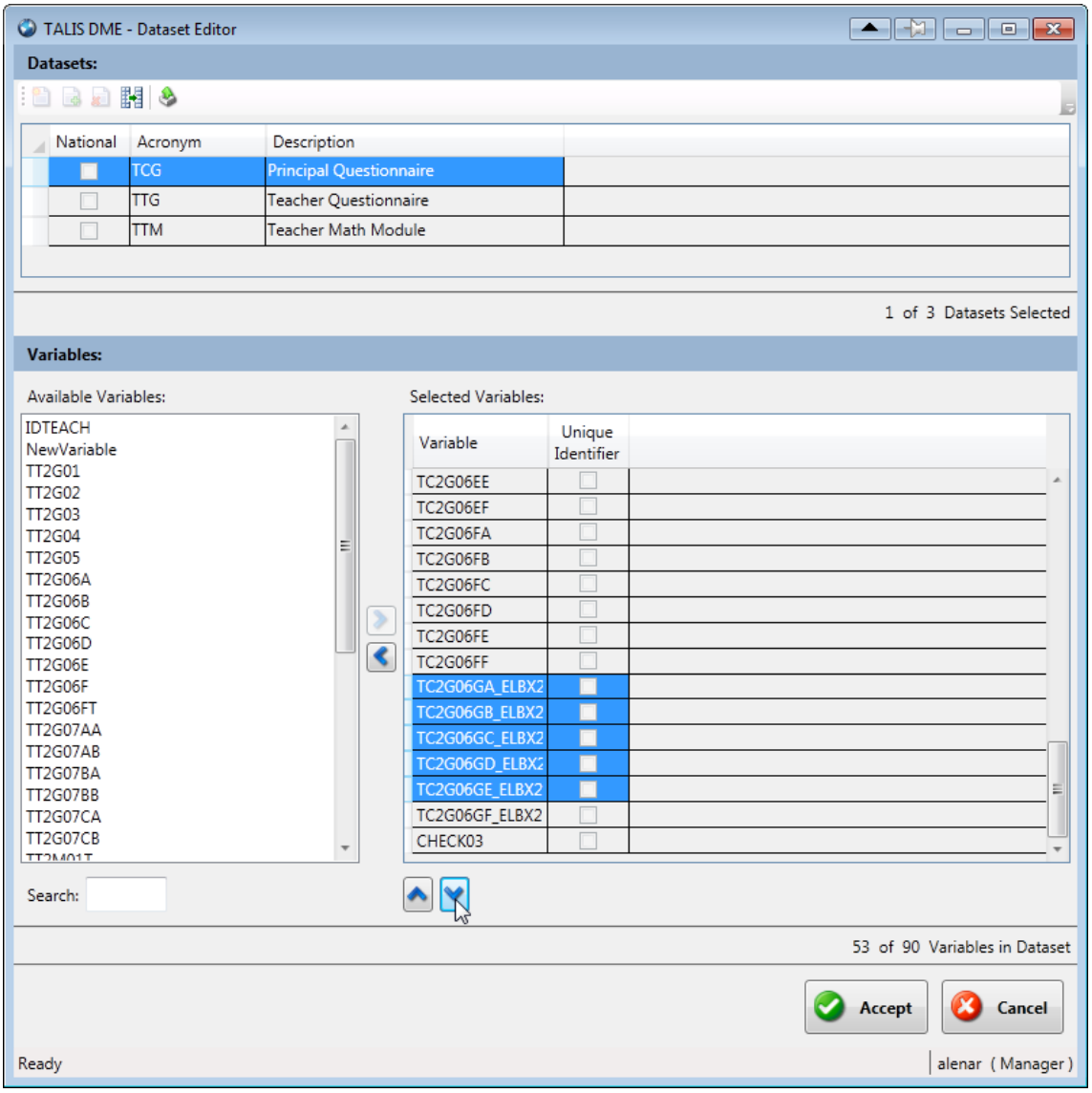


Figure 4-47: Dataset Editor – changed order of several variables

426. Of course you can also move variables upwards with the up-arrow icon accordingly.

427. Once you have sequenced the variables of the main dataset, you can simply copy this sequence to the double punching dataset.

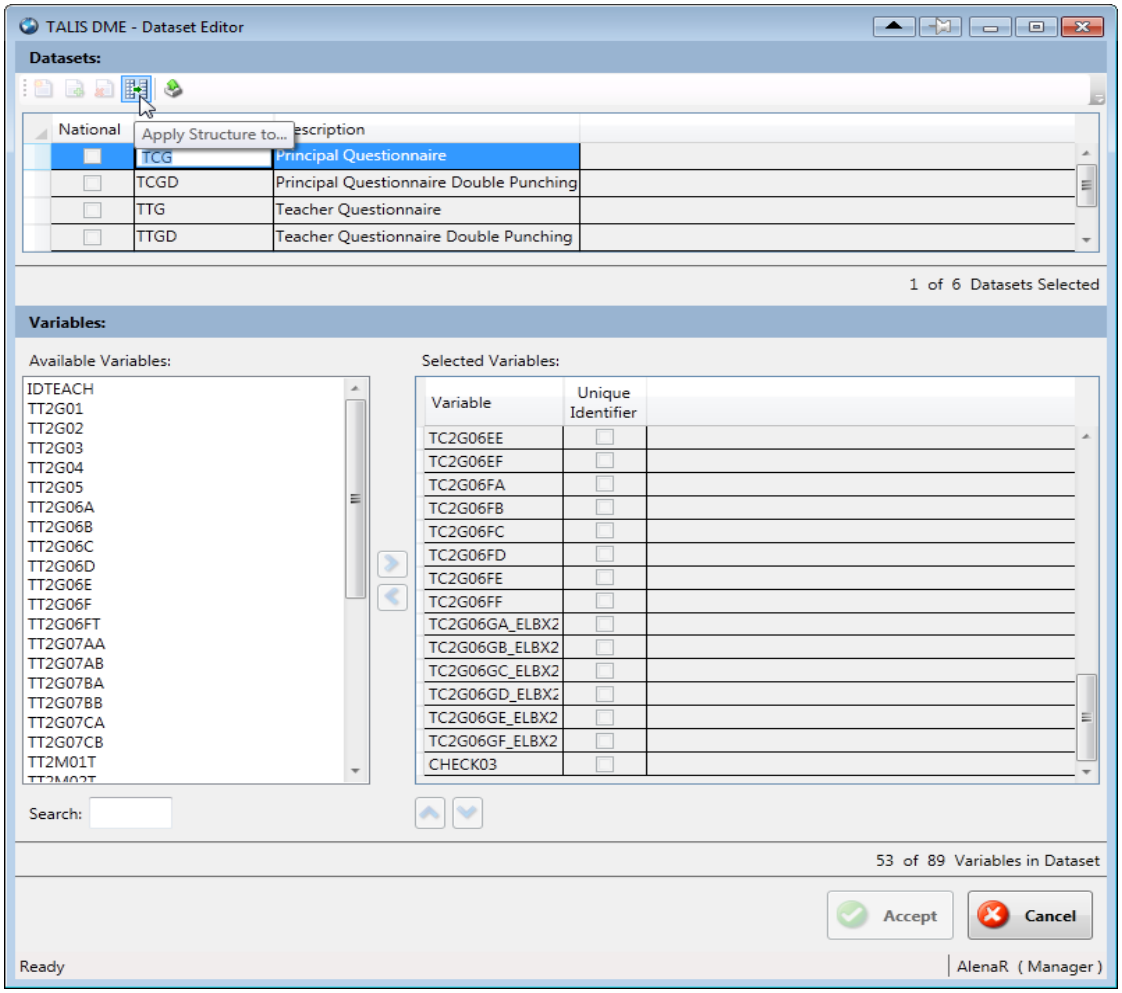


Figure 4-48: Dataset Editor – applying a dataset structure to another dataset

428. Select the button and choose to which other dataset the structure should be copied over to. Selecting the first option, will disable the automatic copy of the structure of the dataset to the instrument structure. In most cases, you will want to select the corresponding double punching file. This means, that the new structure will be copied from the currently selected dataset (in this example the TCG) to the TCGD dataset and to the TCGD instrument. To additionally copy the structure to the TCG instrument, you will have to go to the instrument editor and use the same functionality to copy the structure of the TCGD instrument to the TCG instrument.

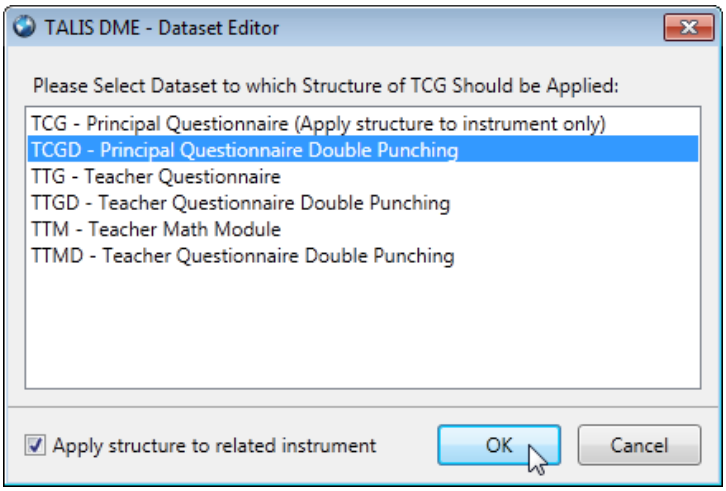


Figure 4-49: Dataset Editor – selecting a dataset to apply a structure to

Please Note!

Only copy the structure of a dataset to the corresponding double punching datasets, otherwise you will destroy the structure of the other datasets. This means that you should only copy the structure of the TCG dataset to the TCGD dataset; the structure of the TTG dataset to the TTGD dataset; and the TTM dataset to the TTMD dataset.

4.4.2.9 Sequencing variables in an instrument

429. For manual data entry, it is important to also sequence the variables within the instruments. The sequence of the variables defined in the DME has to reflect the sequence of the variables in the paper instruments 100%.

430. In TALIS, the order of the variables in the dataset should match the order of the variables in the instrument 100%. Therefore you can simply copy the pre-defined order of the dataset to the instruments. See above for details.

4.4.2.10 National value schemes

431. All variations from the international response categories and value schemes need to be reflected in DME. This means that, if necessary, national value schemes need to be created in order to reflect the national instruments. You need to open the Value Scheme Editor (see Figure 4-50 and Figure 4-51 below) to implement your adaptations.

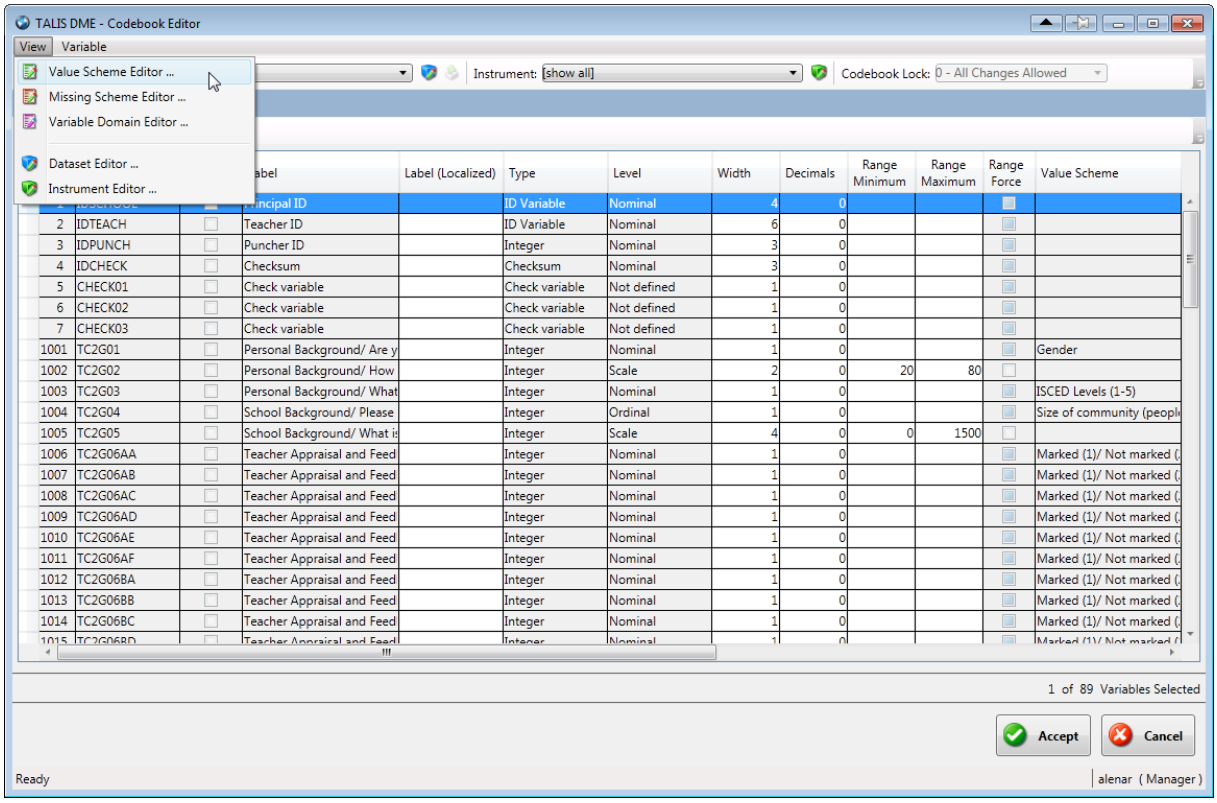


Figure 4-50: Opening the Value Scheme Editor via the 'View' menu

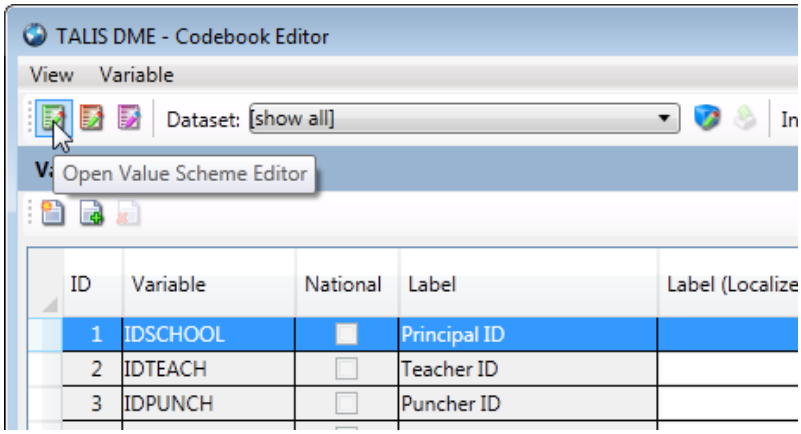


Figure 4-51: Opening the Value Scheme Editor using the icon

432. Figure 4-52 below shows the Value Scheme Editor main window.

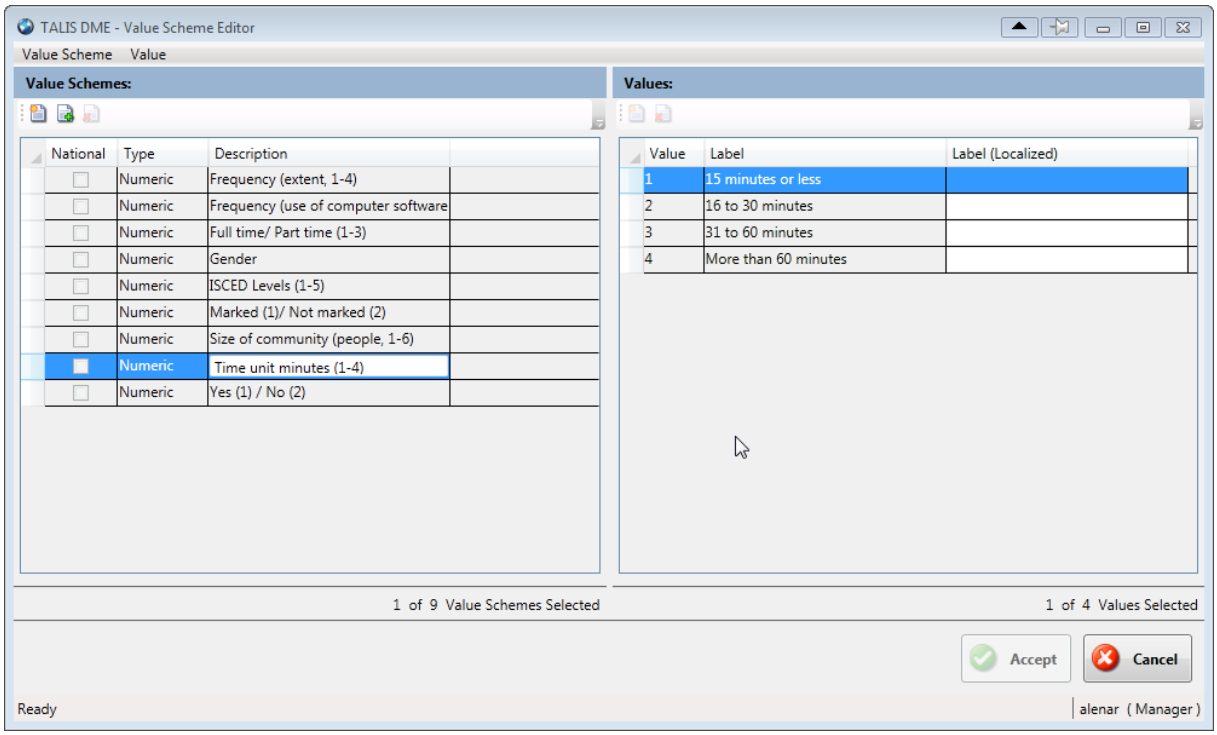


Figure 4-52: Value Scheme Editor main window

433. On the left hand side of the Value Scheme Editor you find all internationally pre-defined value schemes including their Type and Description. The right part of the editor shows all Values and Labels of the selected value scheme.

4.4.2.11 Adding value schemes

434. In order to insert a new value scheme select **New Value Scheme** from the **Value Scheme** menu (see Figure 4-53) or click on the New Value Scheme icon in the Value Scheme Editor main window (see Figure 4-54).

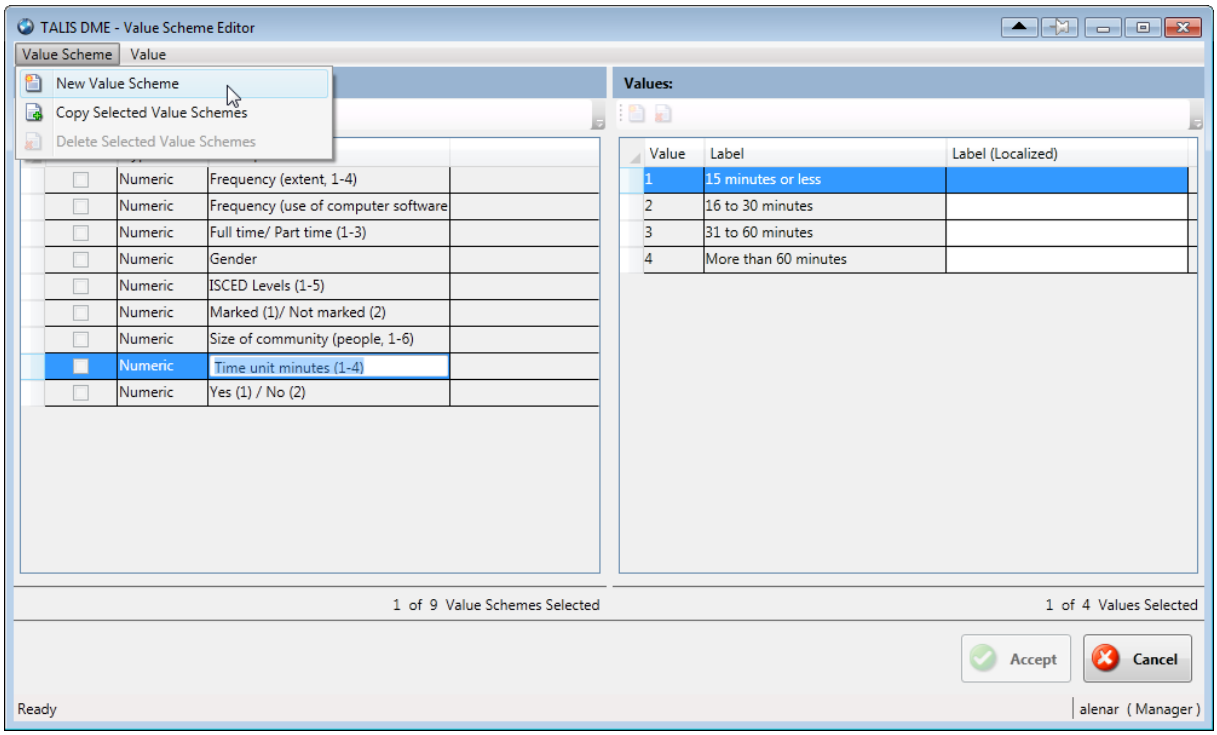


Figure 4-53: New value scheme via the 'Value Scheme' menu

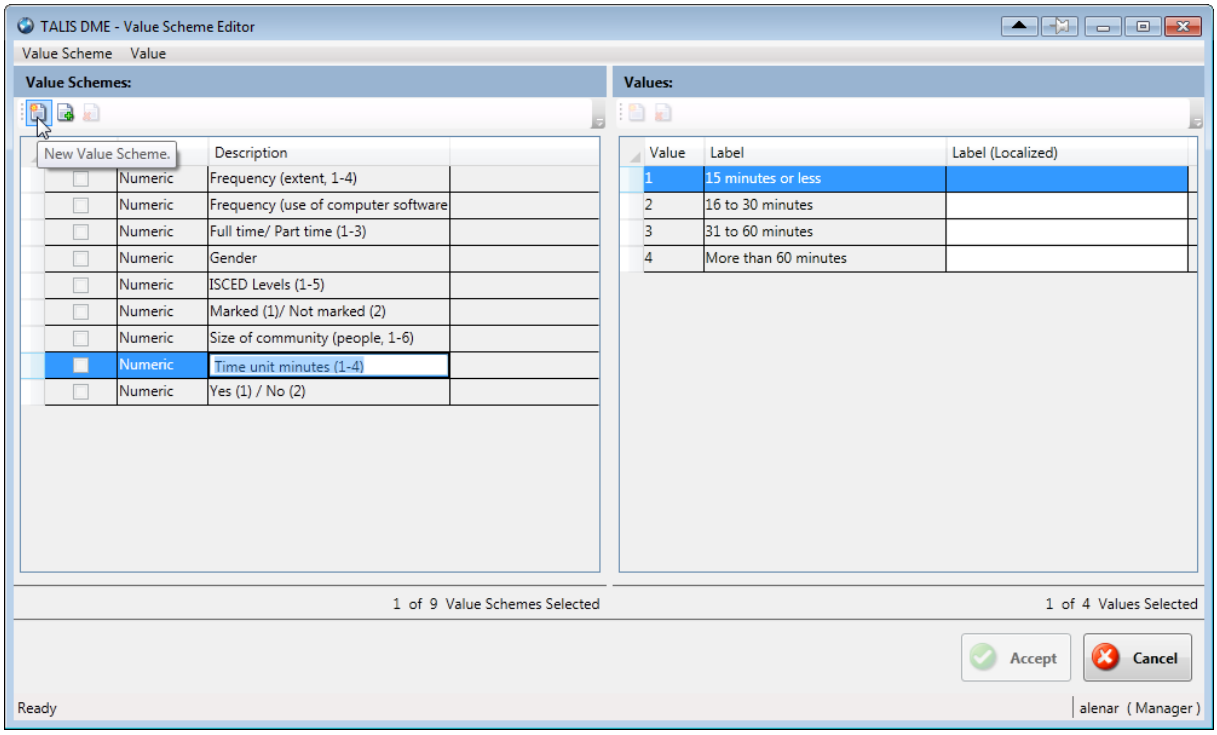


Figure 4-54: New value scheme via icon

435. Start adapting the new value scheme by defining the type (numeric or string) and the description (see Figure 4-55).

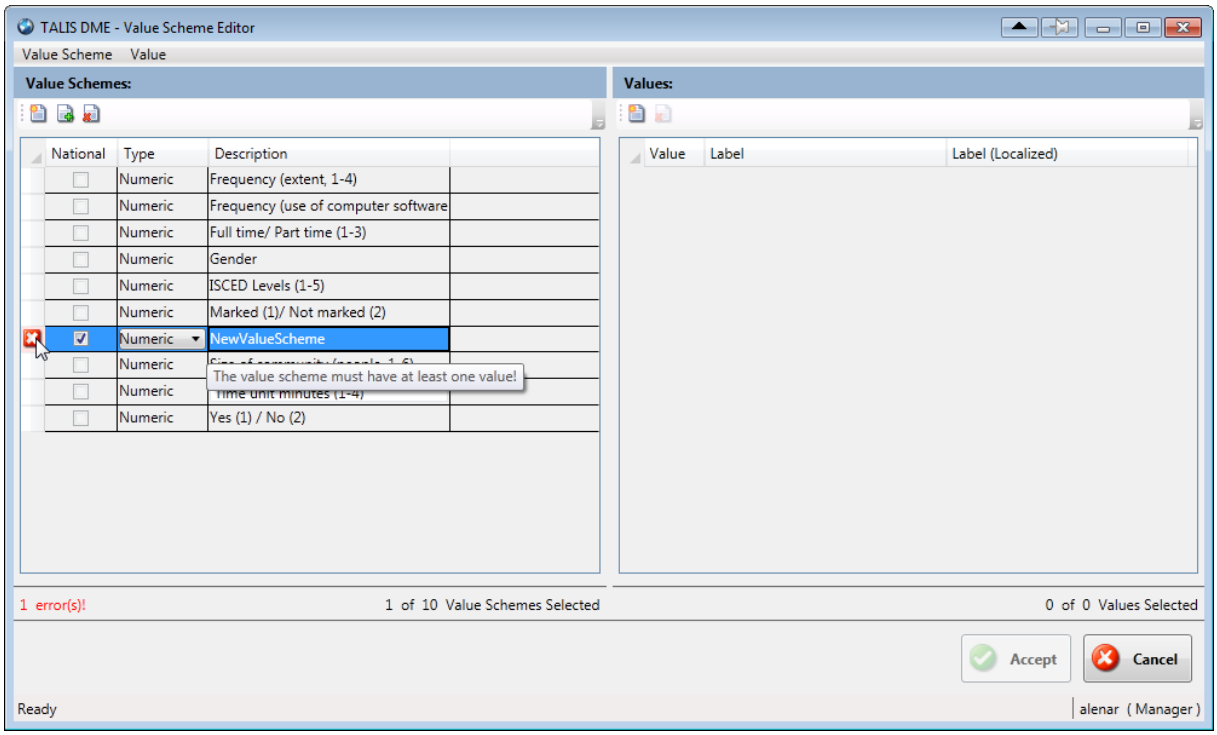


Figure 4-55: New value scheme

436. Afterwards, you need to specify all values and value labels for the new value scheme. In order to insert a new value, select **New Value** from the **Value** menu (see Figure 4-56) or press the New Value icon in the Value Scheme Editor main window (see Figure 4-57).

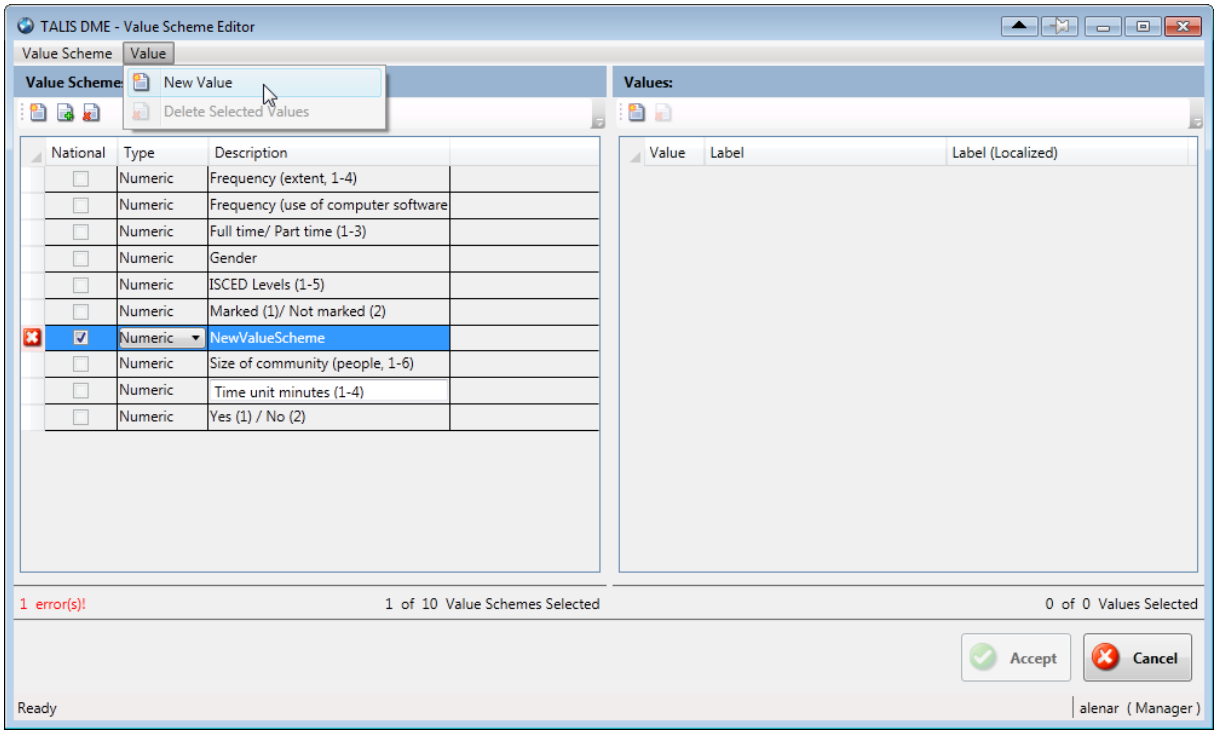


Figure 4-56: New value via menu

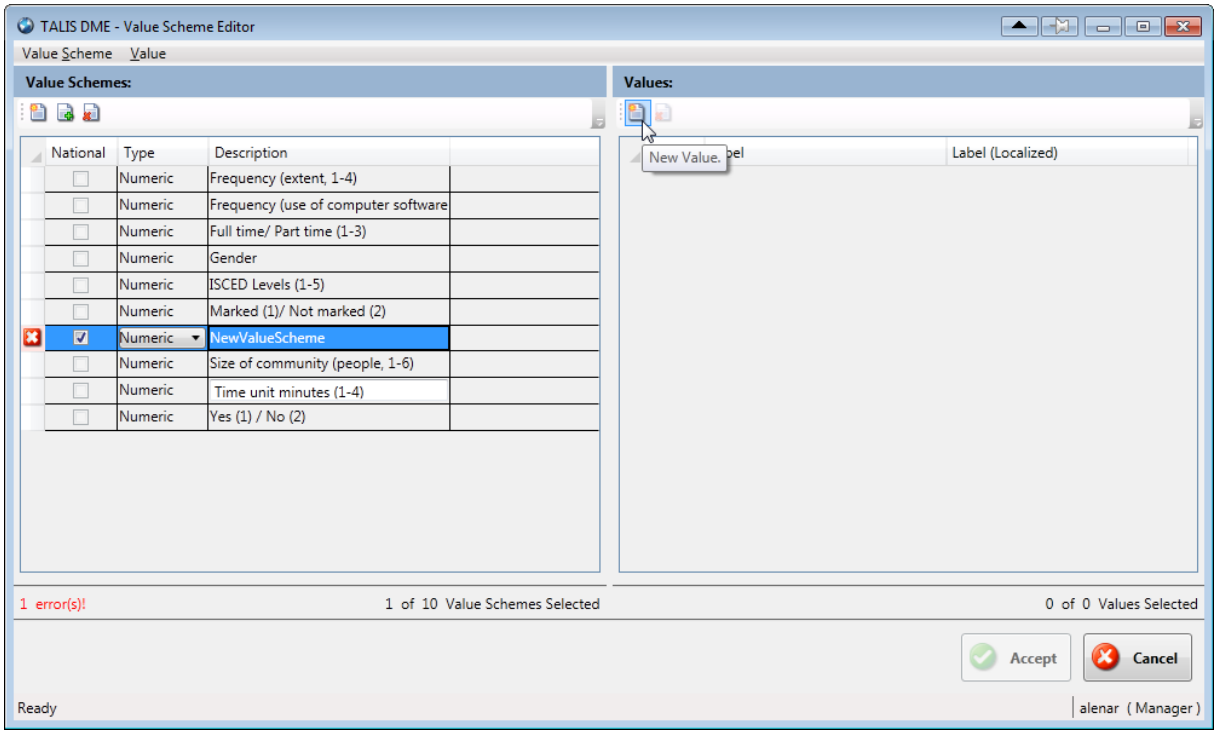


Figure 4-57: New value using icon

437. For each new value you need to specify the value code and the value label (see Figure 4-58). You may also want to add a label in your national language in the column 'Label (localized)'.

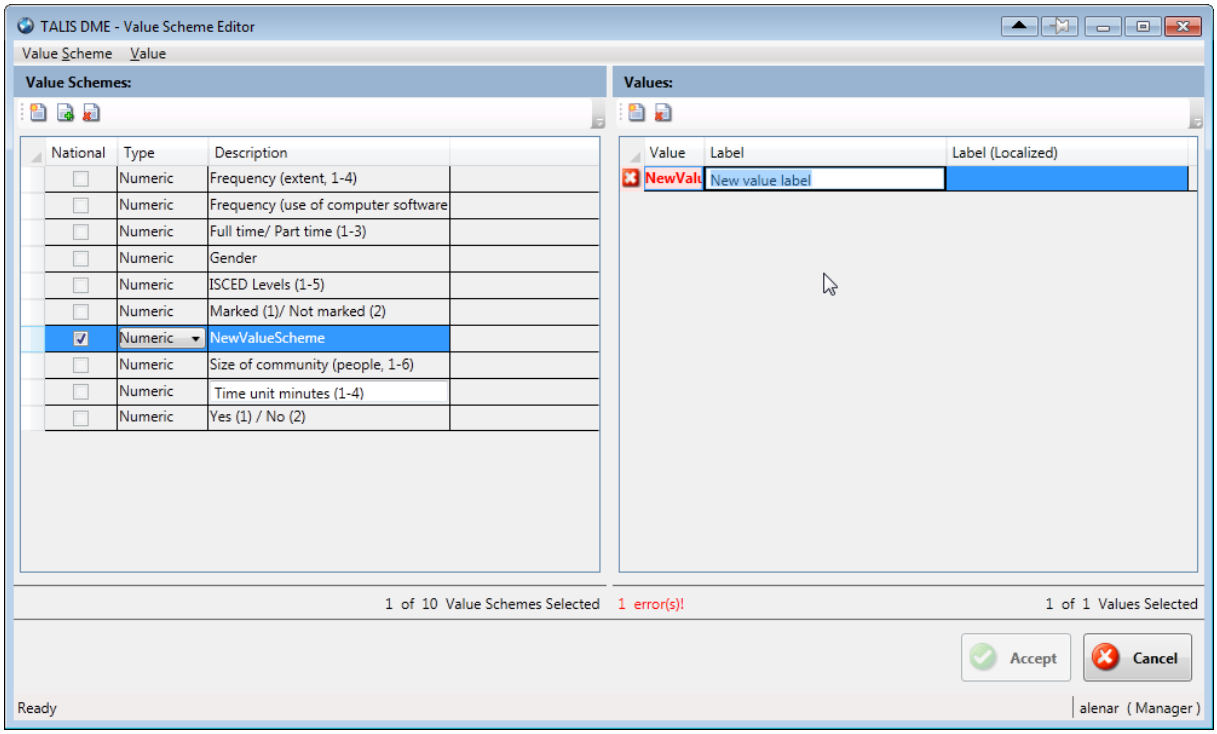


Figure 4-58: New value label

438. Once you have created all values and their corresponding labels for the new value scheme, click **Accept** to confirm your changes.

4.4.2.12 Copying value schemes

439. In order to copy an existing value scheme for further adaptation to a national one, select a variable, or select multiple variables using the “Ctrl” button on your keyboard, or “Ctrl” and “Shift” to select a range. Afterwards select **Copy Selected Value Scheme** from the **Value Scheme** menu (see Figure 4-59) or click on the Copy Selected Value Schemes icon in the Value Scheme Editor main window (see Figure 4-60).

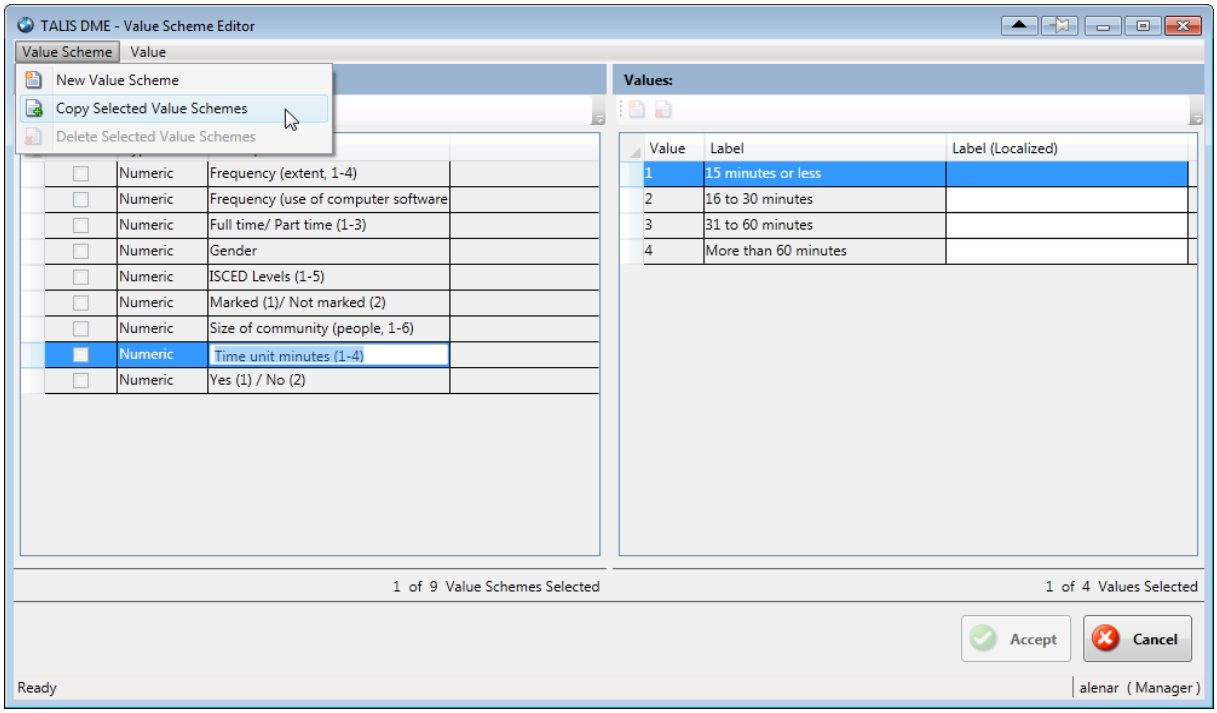


Figure 4-59: Copying a value scheme via ‘Value Scheme’ menu

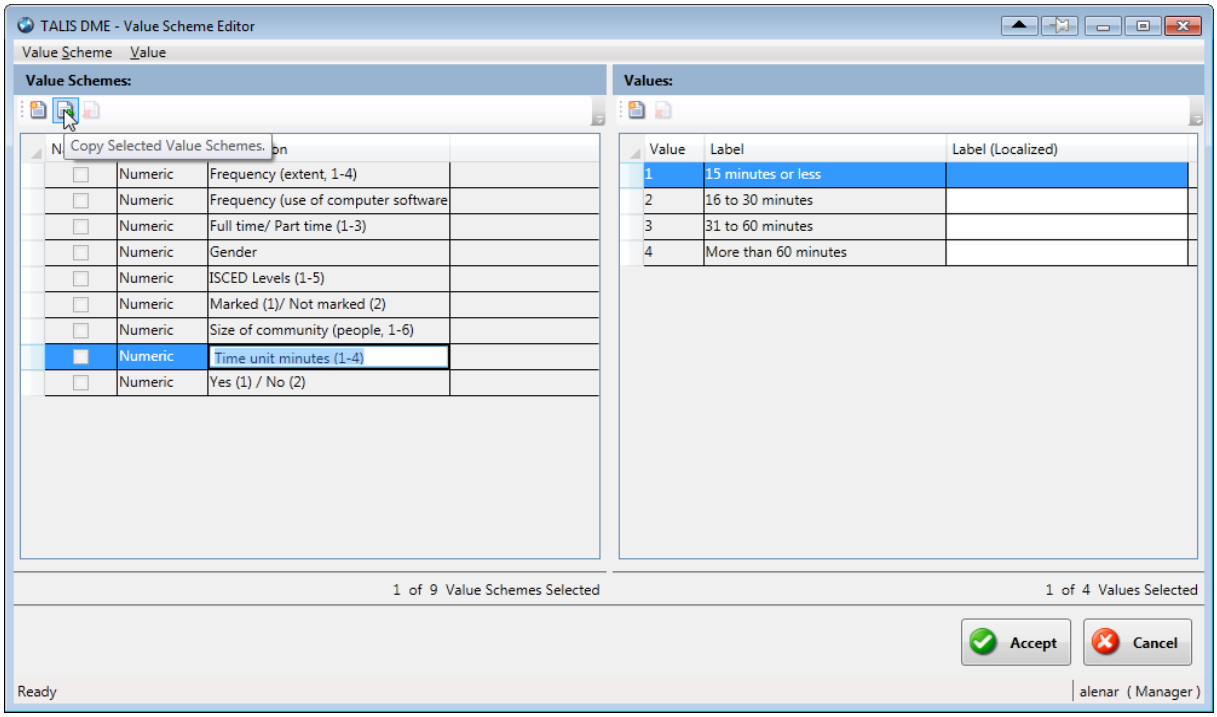


Figure 4-60: Copying a value scheme via the icon

440. If necessary, you should change the type and the description of the copied value scheme (see Figure 4-61).

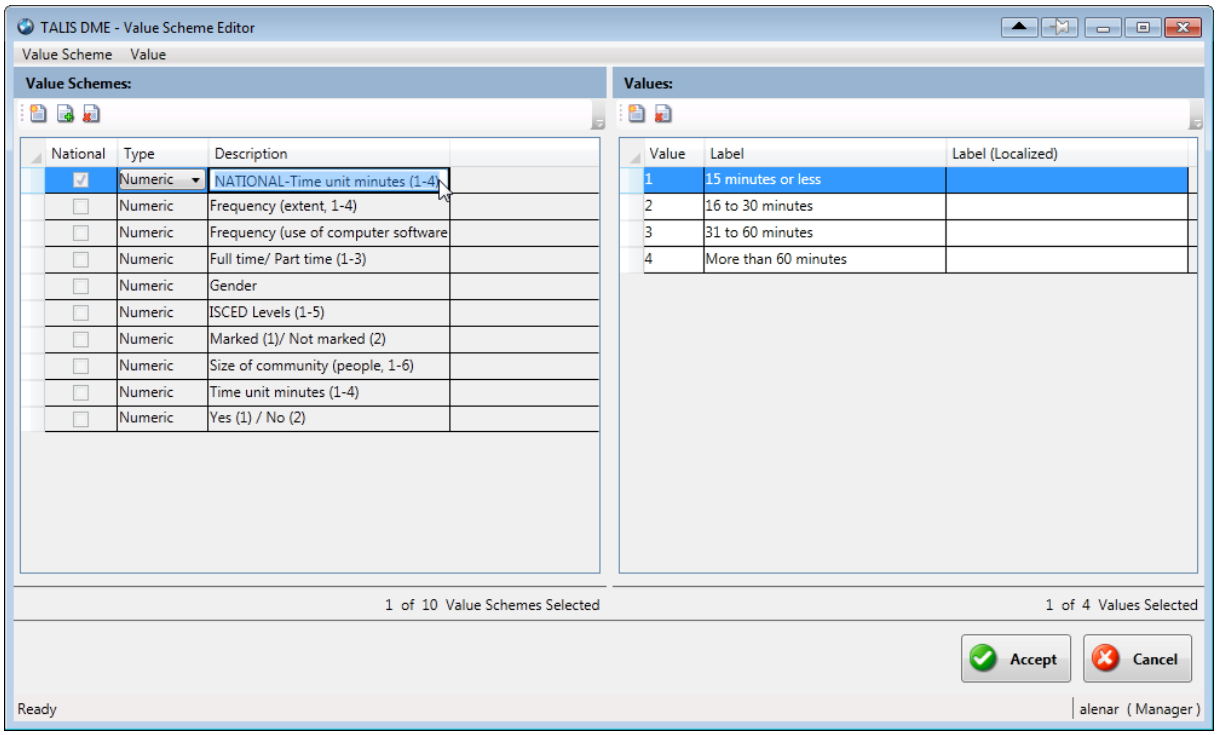


Figure 4-61: Value scheme type and description

441. Afterwards you can adapt the pre-defined values and their labels. You can add new values as shown below (see Figure 4-62), you can adapt the existing values and labels, or delete values that are not needed.

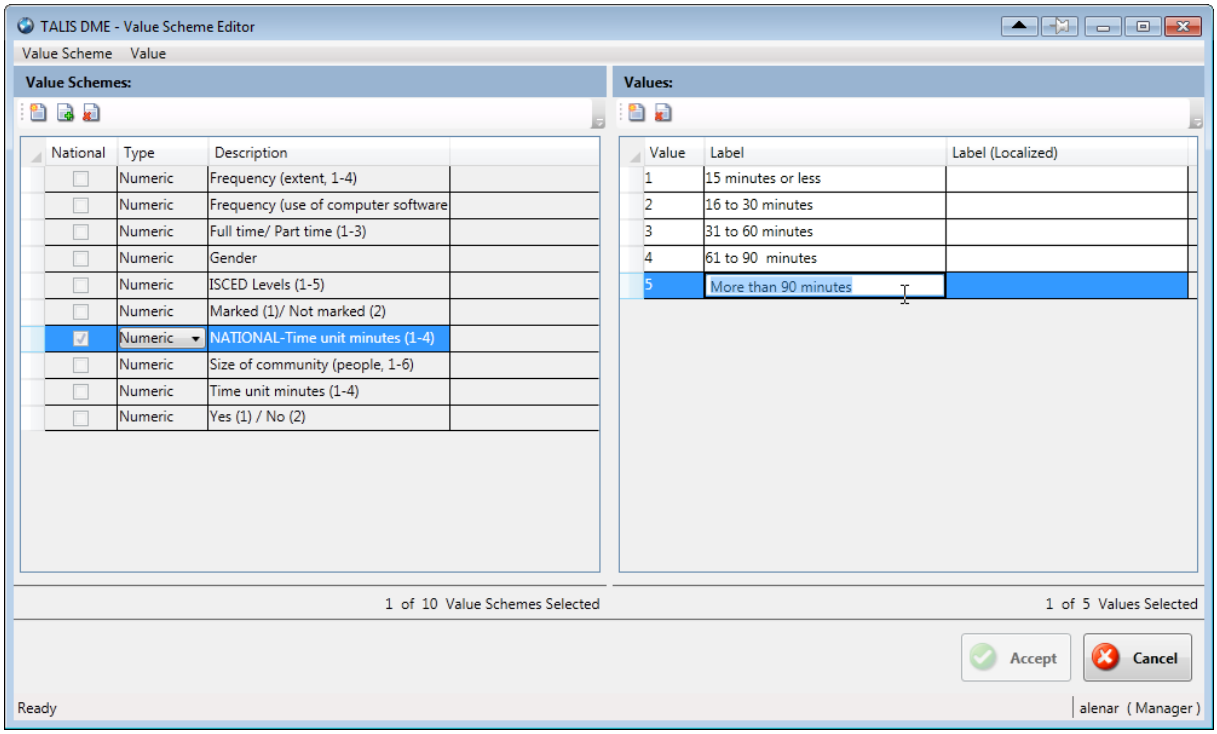


Figure 4-62: Adding a value

442. In order to delete an existing value, mark one or more values. Then select **Delete Selected Values** from the **Value** menu (see Figure 4-63) or click on the Delete Selected Values icon in the Value Scheme Editor main window (see Figure 4-64).

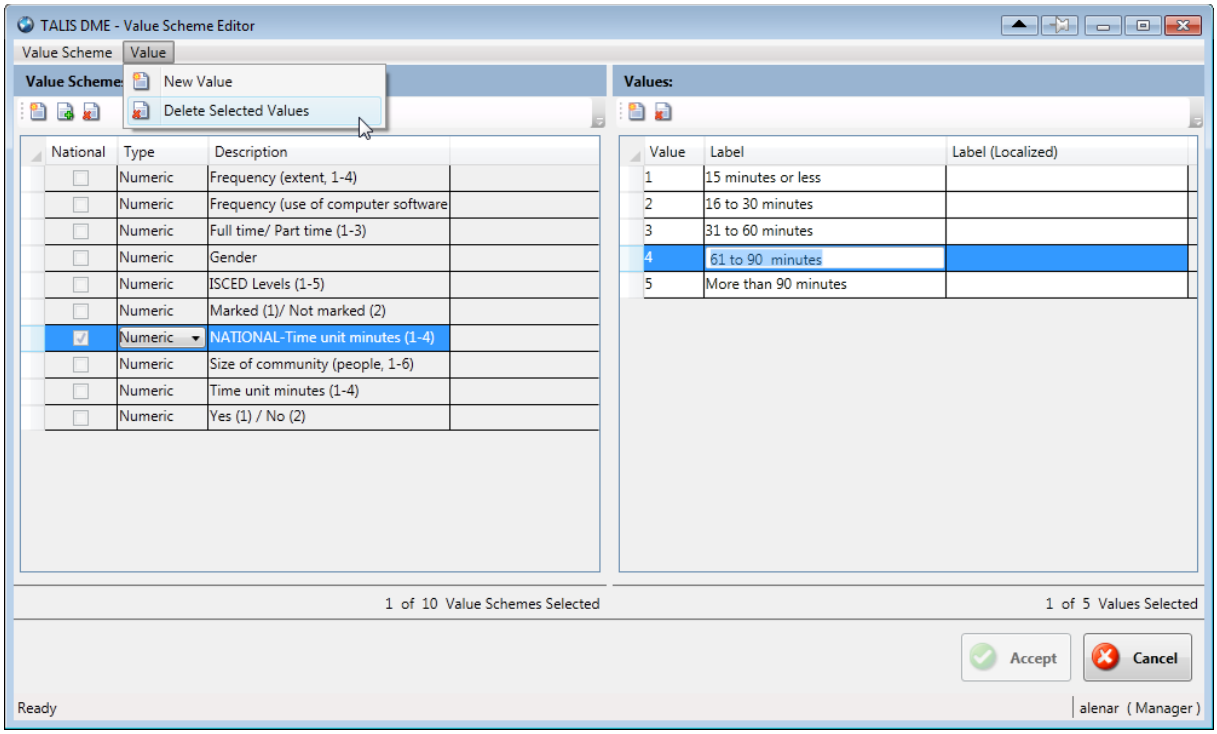


Figure 4-63: 'Delete Selected Values' via 'Value' menu

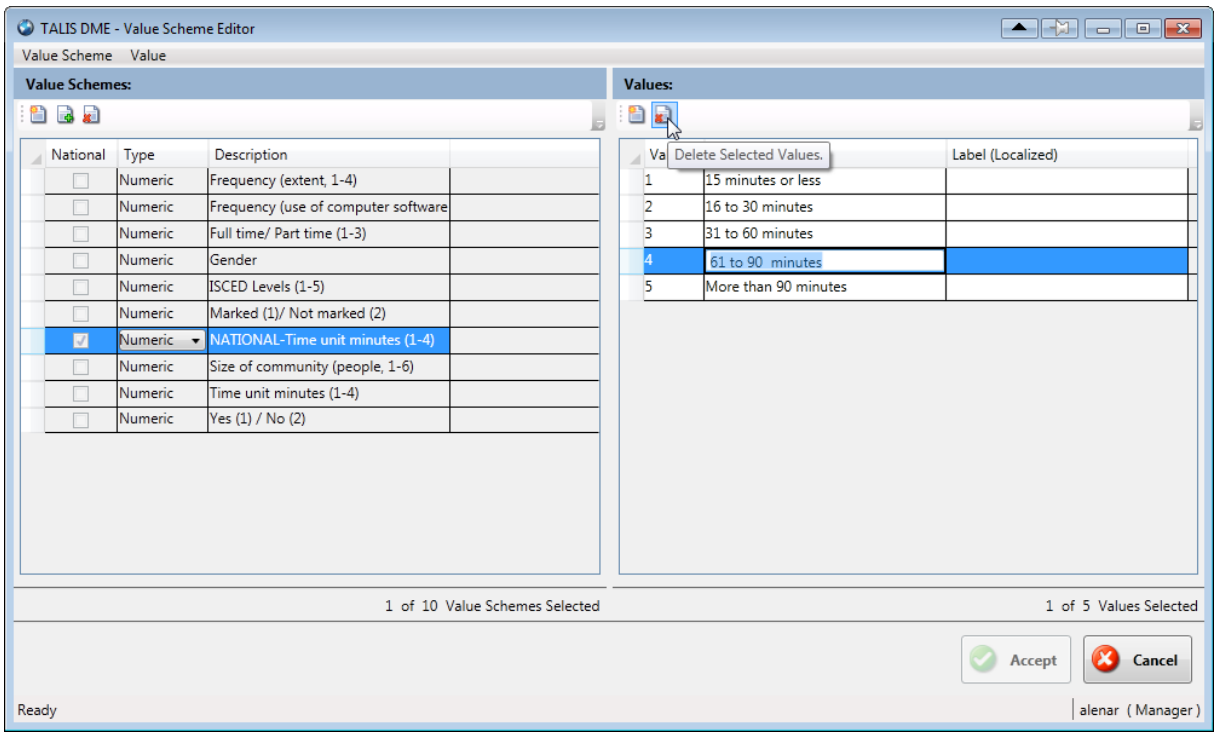


Figure 4-64: Deleting selected values using the icon

443. Confirm your changes by clicking **Accept**

4.4.3 Creating data tables in which to store the Main Study data

444. The last step of editing your codebooks is the creation of data tables to store the Main Study data. After the data tables have been successfully created, you will be able to begin with data entry.

445. To create data tables the following prerequisites must be met:

- A dataset with at least one variable assigned must exist
- Each existing instrument needs to have at least one variable assigned
- Each existing dataset needs to have at least one unique identifier
- Each existing instrument needs to have at least one unique identifier
- Each existing variable needs to have a value scheme or range, a missing value scheme, a width and label assigned
- The values scheme and the missing value scheme of a variable must not conflict (same values not allowed!)

446. If these prerequisites are met, you can create the actual instance data tables based on the codebook information. In order to do so, select **Project → Create Data Tables**.

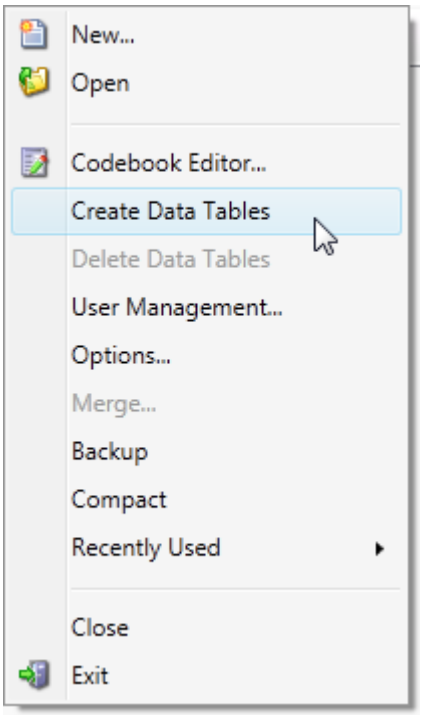


Figure 4-65: 'Create Data Tables' menu

447. To confirm the creation of data tables you should click the **Yes** button. Following this, the appearance of the main window will change. Datasets will be presented on individual tabs as a grid view.

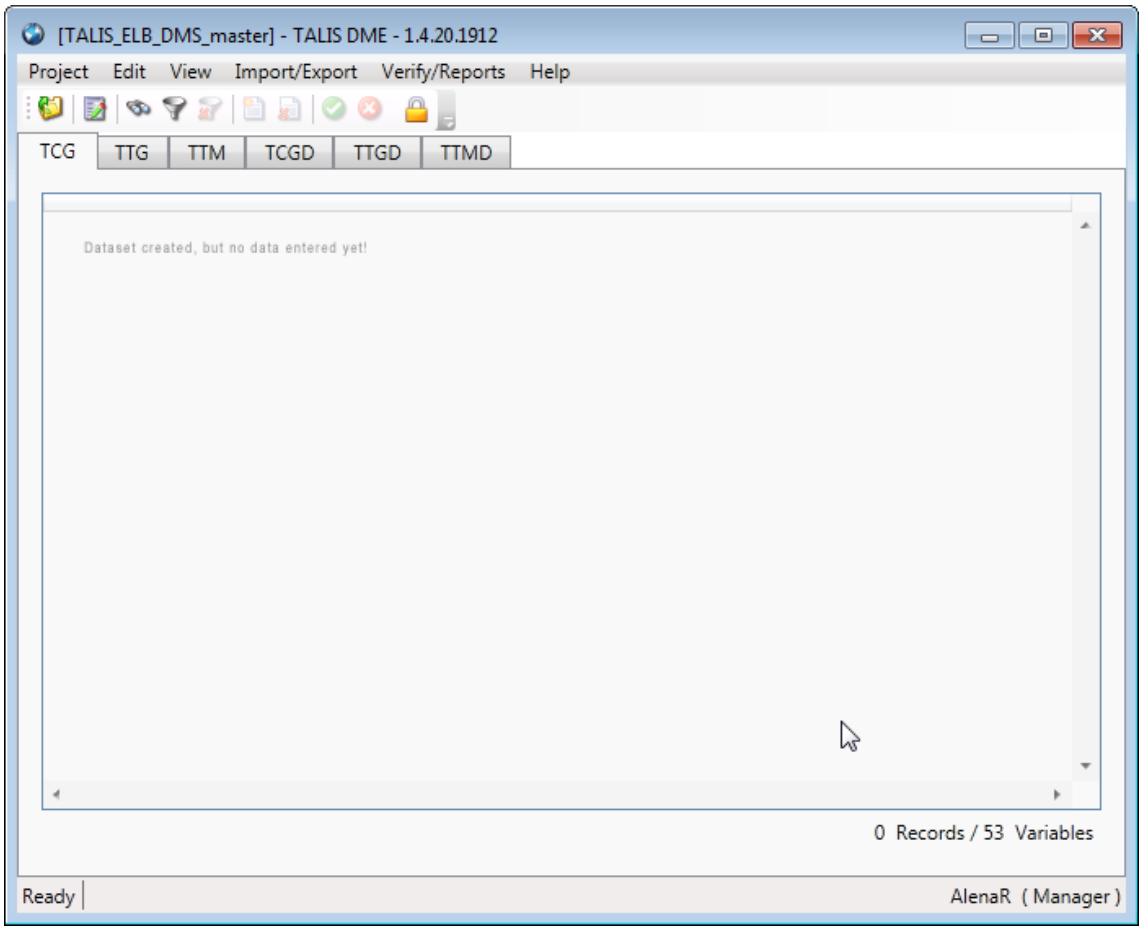


Figure 4-66: Main view after data table creation

Please Note!

You should not create data tables before you have completed all editing and adaptation tasks in your codebook because most fields in the codebook will be not editable after data table creation. If you need to undo the creation of data tables, please take care to export and secure any entered data as the instance tables and all their content will be deleted. If the codebook structure has not changed, you will be able to import such data again afterwards. If you need to change the codebook structure and want to import previously entered data, please contact the IEA DPC to support you in this process.

4.4.4 Producing text format codebooks

448. The DME software provides the possibility to export text format codebooks that contain information on attributes at variable level. They will be produced in the course of each export to any of the supported formats and will contain information on all variables that were included in the export. The exported codebooks get stored in the same location you selected for export.

449. In order to produce a complete text format codebook containing a full set of variables available in a dataset, you will need to perform an export with all variables selected. For an overview of the supported export formats and a description of necessary steps in order to perform the export, please refer to subsection 4.5.6.1 in this document.

450. The following Figure 4-67 displays the variable attributes that are exported to a text format codebook.

```
Codebook for dataset: Principal Questionnaire
Creation date: 13-Okt-2011 16:37

--------------------------------------------------------------------------------

    1  IDSCHOOL

       Label              Principal ID
       LabelLocalized
       Type               ID Variable
       Level              Nominal
       Width/Decimals     4.0
       Columns            1-4
       Range              n/a

       ValueScheme        n/a

       MissingScheme (0)

       IsNational         false
       IsSuppressed       false
       DataEntryCarryOn   false
       DataEntryHidden    false
       DataEntryNote
       Domain             ID Variables
       Coverage
       Comment

--------------------------------------------------------------------------------

    2  IDCHECK

       Label              Checksum
       LabelLocalized
       Type               Checksum
       Level              Nominal
```

Figure 4-67: Sample section from a text codebook

4.4.5 Final steps after adaptation of codebooks

451. National adaptations and extensions that have been made in the DME using the Codebook Editor require careful testing. Once you have adapted your codebooks you should check once more if the instrument structure in the codebooks matches your paper instruments 100%.

4.4.6 Submitting the adapted DME database to the Consortium

452. After you have reflected all national adaptations that were initially made in your national adaptation forms in the DME database, NDMs are required to submit the adapted database (.dme) – without any data in it – to the Consortium for review.

453. Submission should be made via the country exchange folder in the NPM sub-site on SharePoint. Go to your country's TALIS 2013 Main Study folder and upload

- **TALIS 2013 Main Study → ISCED 1/2/3/ PISA link → 4 DME verification**

454. In parallel to the upload, please send a notification message to the project e-mail address at the IEA DPC (talis@iea-dpc.de).

455. If you have made updates to the codebooks, please re-submit the most up-to-date version again.

4.4.7 Checklist

- ✓ Gather and organise all necessary material.
- ✓ Make yourself familiar with the DME software, especially the Codebook Editor.
- ✓ Apply national adaptations and extensions to variables within the Codebook Editor.
- ✓ Assign and sequence national variables to/in datasets and instruments.
- ✓ Create data tables.
- ✓ Test for completeness and functionality of national codebooks *i.e.* that all adapted and extended variables are reflected in the codebooks DME.
- ✓ Submit the adapted and tested national DME database (without any data) to the Consortium for verification.

4.5 Manual data entry from questionnaires

4.5.1 Organising materials required for data entry in batches

456. Before any data entry of the paper questionnaires can begin, you should organise the materials in ways that facilitate the work flow for data entry.

457. All instruments should be first sorted according to their type (Principal Questionnaire, Teacher Questionnaire and Mathematics Teacher Module).

458. We recommend sorting all instruments into further batches. Ordering the materials into batches will speed up your data entry process, because punchers will not have to switch between instruments after each entered record.

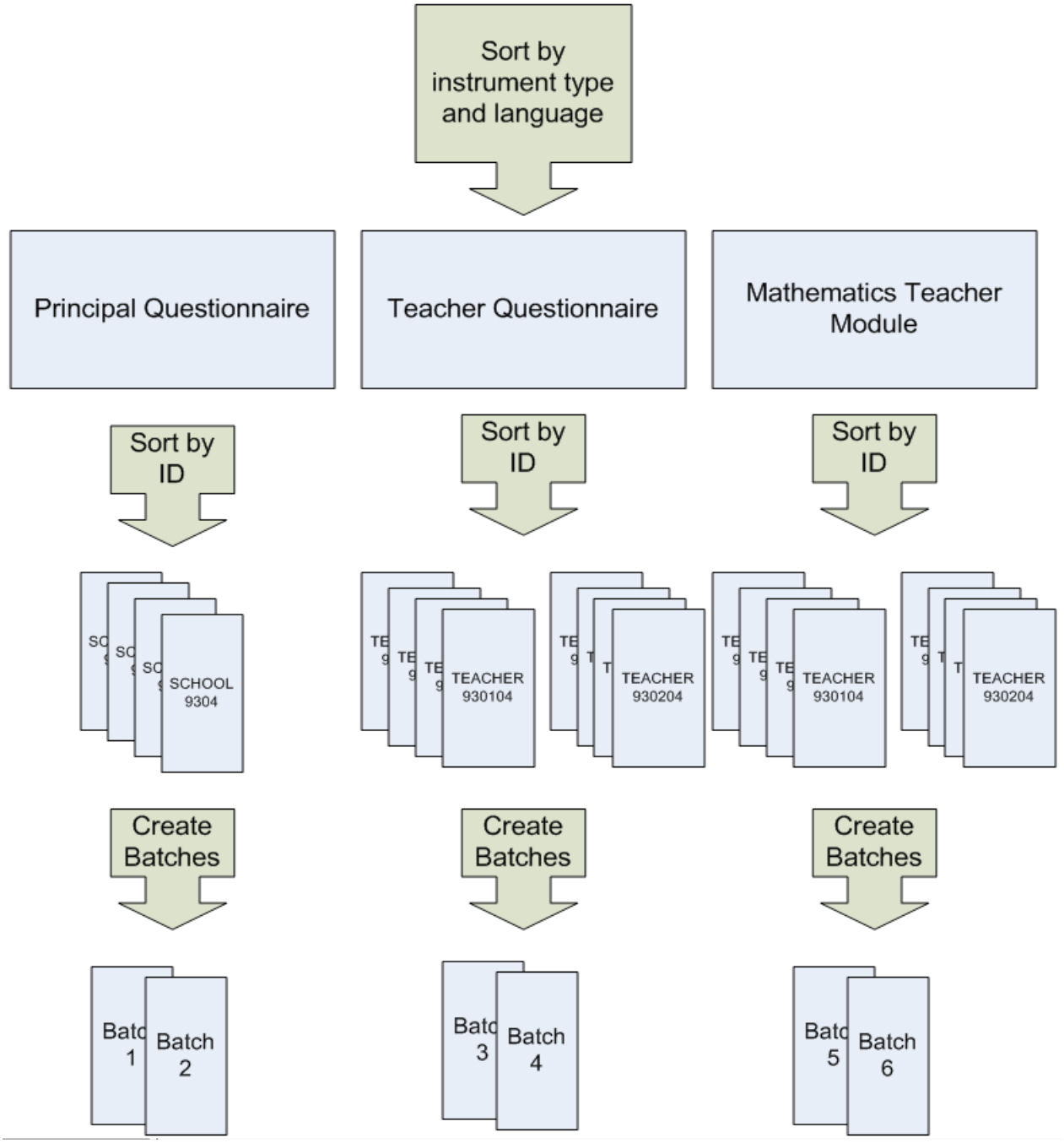


Figure 4-68: Sorting data entry materials in batches

Please Note!

You only need to enter questionnaires with data, so all returned, empty questionnaires do not need to be entered in the DME. For the purpose of data entry, a questionnaire is considered completed if it includes at least ONE valid response.

459. For a better overview of all created batches of instruments, it is recommended to use so-called 'Data Entry Batch Headers' (see Annex A for a template). These Data Entry Batch Headers give you an easy overview of what and how much material is included in each batch. Additionally these Data Entry Batch Headers can be used by the data entry staff to mark down the first and second data entry, thus enabling you to see at once if everything has been entered by two different key punchers. Follow the steps below to fill out the Data Entry Batch Headers:

TALIS Main Study Data Entry Batch Header	
Batch information	
International option in this batch	☐ ISCED Level 1 ☐ ISCED Level 2 ☐ ISCED Level 3 ☐ TALIS PISA Link
Instrument type in this batch:	☐ Principal Questionnaire ☐ Teacher Questionnaire ☐ Mathematics Teacher Module
Language of questionnaires in this batch:	
Data entry batch number:	
Number of instruments in this batch:	
First data entry	
Puncher ID:	
Date:	
Comments:	
Second data entry	
Puncher ID:	
Date:	
Comments:	

Figure 4-69: Data Entry Batch Header

4.5.2 Training and supervising data entry staff

The individuals assigned to this task in TALIS are referred to as 'punchers' in this manual.
To enter all instruments into the TALIS database, you need to assign a unique ID to all of your punchers (IDPUNCH). Puncher IDs can be numeric values (only) of length 1-3.

Please Note!

First and second data entry needs to be done by two different punchers

460. Before your punchers can start entering data you need to train them. For efficient training we recommend that you:

- Translate (and adapt at your discretion) sections 4.5 and 4.5.4 of this manual for your punchers to guide them through the process of data entry.
- Prepare data entry training materials. You may use the same materials which were used during the Data Management Training in November in Cancun, Mexico. If you prefer to prepare your own materials that resemble the look and feel of your national materials, make sure to include:
  - any type of conflicting or inexplicit information in the instruments (see section 4.5.4.7 or examples)
  - empty instruments
- Read through sections 4.5 and 4.5.4 together with the punchers and/or alternatively use relevant parts of the applicable presentations given at the Data Management Training in Cancun.
- Explain the Data Entry Batch Header to the punchers and the importance of recording the Puncher ID on it.
- Explain to your punchers that the same batch of instruments has to be entered by two different punchers!
- Let each puncher enter the prepared training materials.
- Compare entries between punchers manually or using the double punching check and discuss any discrepancies with your staff.

461. Regularly check the accuracy of the data being entered. In case of systematic or incidental errors, you may need to retrain your punchers.

4.5.3 Assigning data entry staff to batches

462. You should always assign a complete batch to the puncher. It is important that they mark their ID and the date on the batch header to avoid that batches are entered twice by the same person.

4.5.4 Data entry rules and conventions

463. The manual entry of data in DME is restricted to valid and missing values. In consequence, these definitions are reflected in the DME's codebooks.

464. Data must be entered exactly as values appear on the instrument, that is, without any corrections, unjustified interpretations, or imputation.

4.5.4.1 General Conventions for Valid Responses

465. The coding scheme in TALIS and other studies is designed to make data entry as easy as possible for data entry staff by providing a set of strict, but easy to follow rules. It may deviate from coding schemes used in other large-scale studies and the general social sciences.

4.5.4.2 Categorical Questions/Variables

466. The value of the first category of a categorical value is always "1", the second one is "2" and so on. For example, a categorical variable with 5 categories will have the values 1 to 5. This is true even if you inserted nationally defined categories[1]. All checkboxes in the TALIS questionnaires feature the corresponding data entry value in subscript letters. In some cases, responses might have been cancelled out by the respondent. Enter the value "as is" only if it is unambiguous.

4.5.4.2.1 IDLANG

New

467. To match the language of the questionnaires to the respondents, the additional variable IDLANG was added to the TALIS MS codebooks. When entering paper questionnaires, punchers will have to enter the IDLANG values in addition to the respondent's ID, checksum and their own ID in the ID block. The language of the questionnaires is documented in the footer of all TALIS instruments.

Page 2 – TALIS **Headteacher** Questionnaire – ISCED 2 (MS-PQ-ENG-en)

Figure 4-70: Footer of TALIS MS Principal questionnaire

468. The carry-on flag has been activated for the IDLANG variable. This means that the value for IDLANG of the previous record will be automatically displayed for the puncher. If only one language was used, the puncher will have to enter the value for IDLANG only once per data table. Even though the DME software will "remember" the previous value for IDLANG and display it per default, it is still possible to change that value at any time for any record.

[1] For this reason, you will document all adaptations in the National Adaptation Forms with recoding suggestions

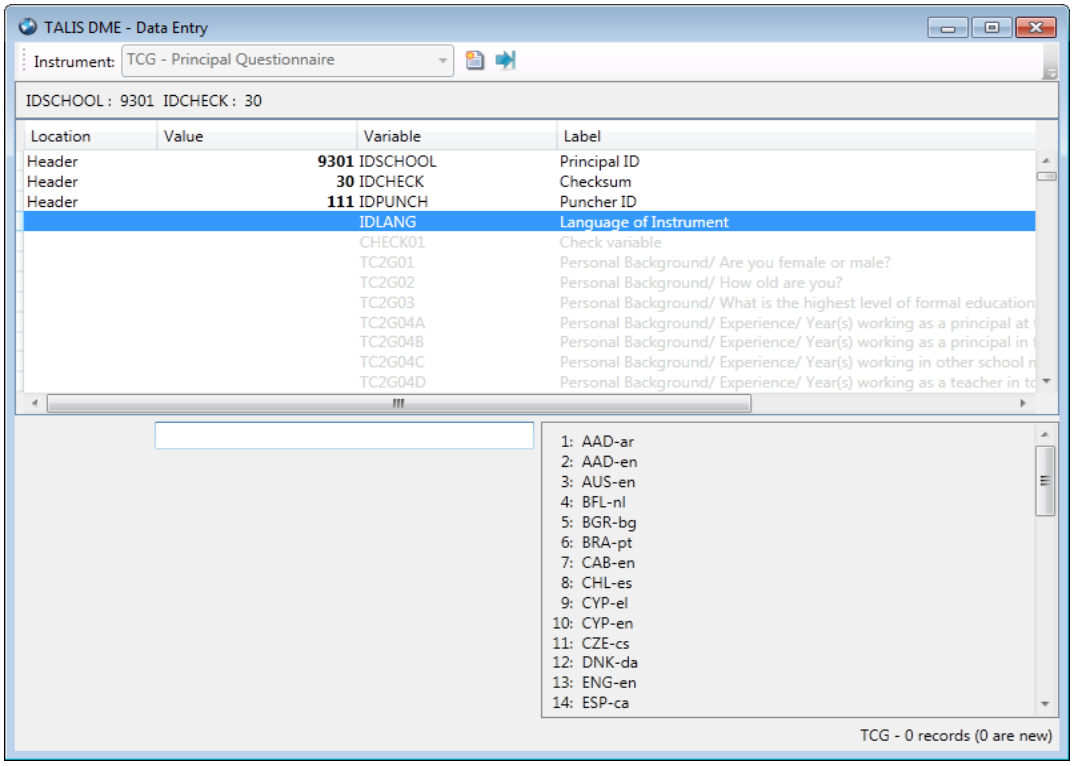


Figure 4-71: IDLANG variable in TALIS codebook "Mark-all-that-Apply" Questions

New

469. These questions are also categorical variables in TALIS and should be regarded as collapsed Yes/No questions with value "1" for Yes, "2" for No. Use "1" if the corresponding checkbox is marked, "9" if it is not marked. For reasons of convenience, all checkboxes that belong to Mark-all-that-Apply question always feature the corresponding data entry value "1" in subscript letters.

Please Note!

This data entry rule differs from the Field Trial. Please make sure to retrain your Field Trial punchers on this issue!

4.5.4.3 Numerical Questions/Variables

470. Data from the survey should be entered "as is". This means that data entry staff must NOT interpret, change or trim the information in the survey instrument during data entry. For instance, data entry staff must not change a numeric value to the upper limit of a valid range simply to make it compliant with the codebook (for example, DO NOT change 65 to 40 because that is the maximum value of the variable defined).

4.5.4.4 Filter Questions

471. For filter questions again, the data entry staff must not interpret the way a respondent has answered, even if his or her answers make no sense logically. Enter the information "as is", *i.e.* for each variable individually. For example, a filter question asks a respondent to go to a question further down. Instead, the respondent answered some or all of the dependent questions that he was supposed to leave out. In this case enter the response to the filter question as well as the responses to the dependent questions exactly as they appeared in the questionnaire, even if the responses logically were not meaningful.

472. In essence, data entry staff should not make inferences between different questions or even within a question. A value should be entered in the exact same way, ignoring any surrounding

questions. Data entry staff should also not interpret, guess or otherwise impute complete or correct data.

473. The key objective is to have consistent data entry rules in all participating countries. This is also important if you plan to outsource parts of the data entry to external contractor, which also should not attempt to "clean", "interpret" or "complete" data, even if they offer such services in other contexts *etc*.

474. Data cleaning is a separate process that will take place between the IEA DPC and the NDM/NPM.

4.5.4.5 Coding of Text/Character Responses

475. You can enter all text passages directly into the DME. The IEA DPC will provide you with all text answers from the paper and online questionnaires at the end of the data processing at the IEA DPC. The IEA DPC, in cooperation with the OECD and IDEG, will then ask NPMs – independently of data entry – to review, aggregate or describe the information contained in these questions in order to review the question with respect to completeness, ambiguity, missing categories or items.

4.5.4.6 Coding of Missing Responses

476. A response to a question can be coded as missing for different reasons. For example, the question could have been removed from the questionnaire ("Not Administered") in your country. Elsewhere, a person may have chosen not to respond to a question or simply may not have had time to reach a certain set of questions in the instrument, or the person may have provided multiple, unreadable, or not interpretable responses (Omitted). These two types of missing data will be handled differently during data processing and therefore should be coded differently during data entry.

477. For each question in the instrument, the codebook defines which code to use when the question was not administered or not answered/interpretable. The coding convention for these values is as follows.

New

478. To align the structure and values of the online and paper data, the missing scheme for entering paper data has been adapted to match the online data. This results in two more codes that are available in the missing scheme but do not need to be used for data entry.

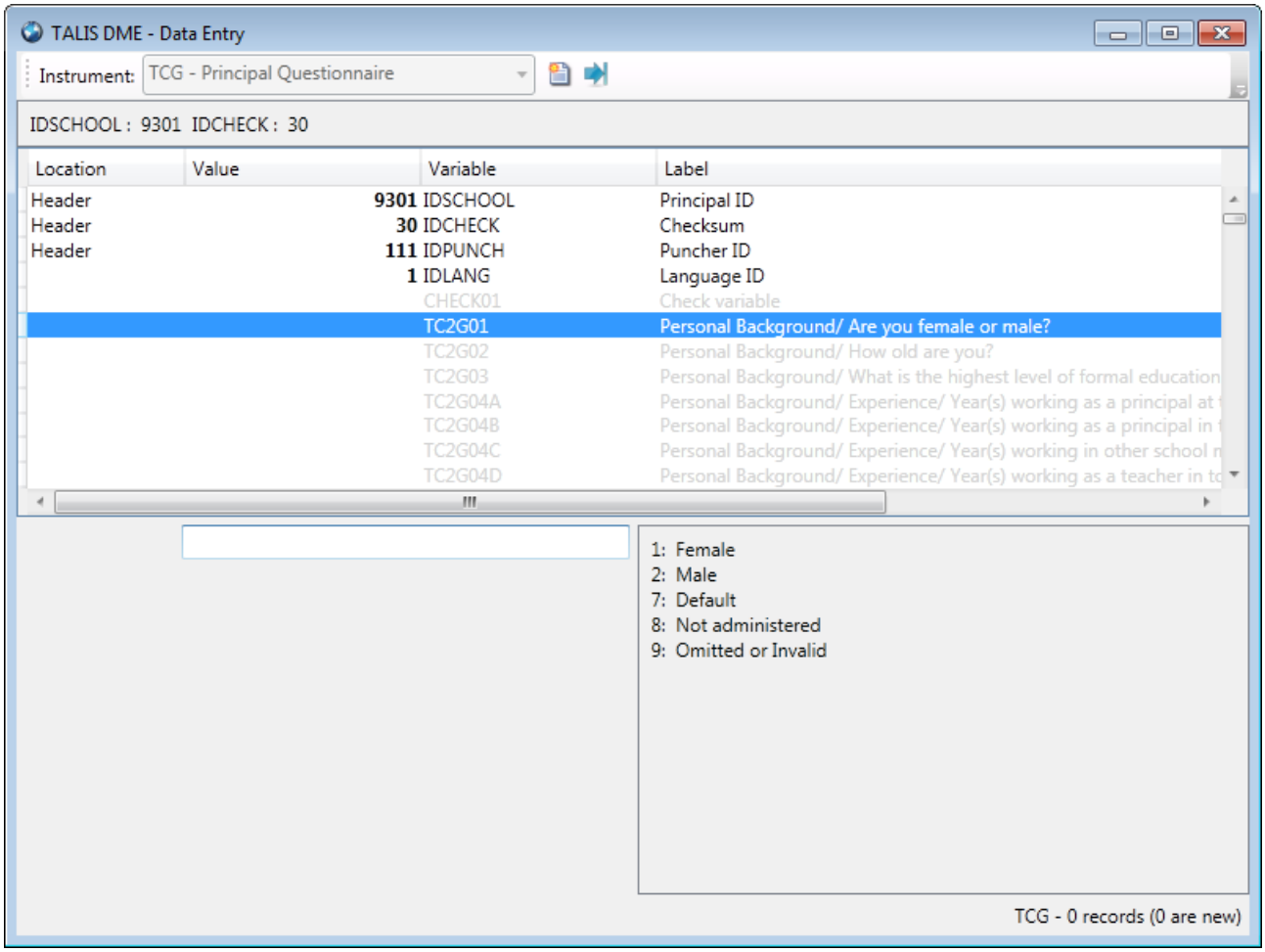


Figure 4-72: Missing and valid values

- **Default Code (7, 97, 997)**

  479. Unlike in other IEA surveys (TIMSS, PIRLS *etc.*), this value is not meaningful for data entry in TALIS, only for later processing. Value 7, 97, 997 will appear in the data entry codebooks, but should not be used for data entry.

- **Not Administered Code (8, 98, 998 …)**

  480. Unlike in other IEA surveys (TIMSS, PIRLS *etc.*), this value is not meaningful for data entry in TALIS, only for later processing. Value 8, 98, 998 will appear in the data entry codebooks, but should not be used for data entry.

- **Omitted Response Code (9, 99, 999 …)**

  481. The codes for omitted responses are “9”, “99”, “999”, and so on (depending on the variable length). Although these are eventually treated as missing data during data processing, they are handled differently from not administered responses.

  482. The response to a question should be coded as “Omitted” when the question was administered but not answered, or the answer is not interpretable. The following cases should be coded as an omitted response:

- **Non-response**
  The respondent had a chance to respond to a question but left the answer field completely blank.

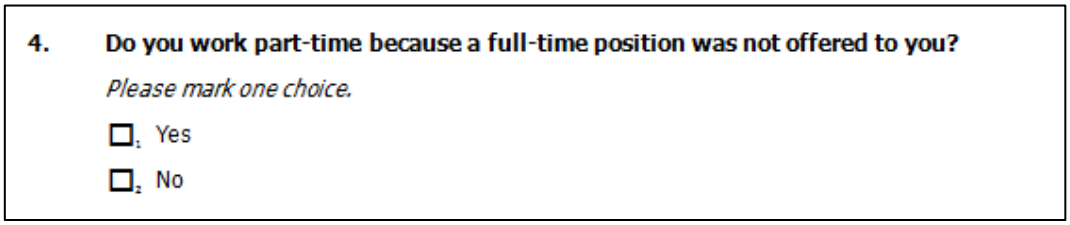


Figure 4-73: Non-response

- **Questionnaire not completed**
  The respondent started answering the questionnaire, but stopped answering before the end. Enter 9 (99, 999 *etc*. respectively) for all omitted answers until the end of the questionnaire. If the entire questionnaire is empty, do not enter a record in DME!

- **If a page was left out or misprinted (the famous coffee spot)**
  If a particular question or (or a whole page) was misprinted in or left out of an instrument, or for other reasons not presented to the respondent, then the corresponding variable(s) should be coded as "Omitted". For the purpose of TALIS, there is no need to distinguish between "Not Administered", "Omitted" or "Invalid".

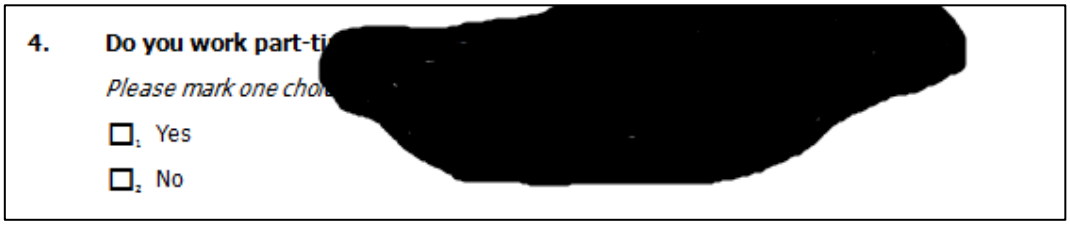


Figure 4-74: Misprinted question

- **Un-interpretable/Invalid Responses**
  The respondent chooses more than one option to a question, or gives an un-interpretable / invalid response to a question.

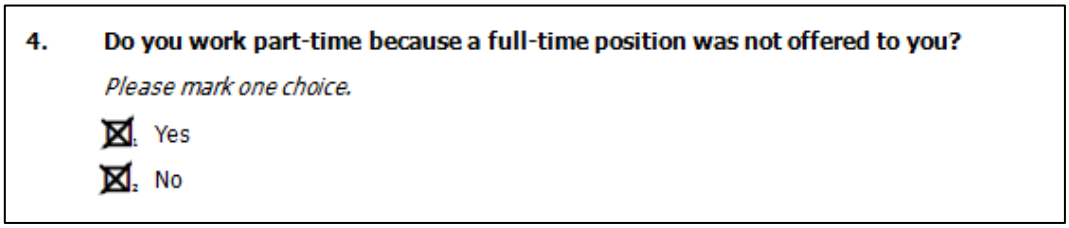


Figure 4-75: Un-interpretable response

Figure 4-76: Invalid response

4.5.4.7 Examples

483. This section provides examples for some common response types, valid as well as invalid or not interpretable. In the real world, you will find these but also combinations of various types of responses.

484. It may not always be easy to decide which way to enter the data. If you are in doubt and the case does not fit into one of the examples below or the guidelines above, please contact the IEA DPC with a copy or fax of the response before you proceed with data entry.

- **Example 1 (valid response to a categorical question with 1 variable)**
  In this example the response is clear and un-ambiguous.
  → Enter 2

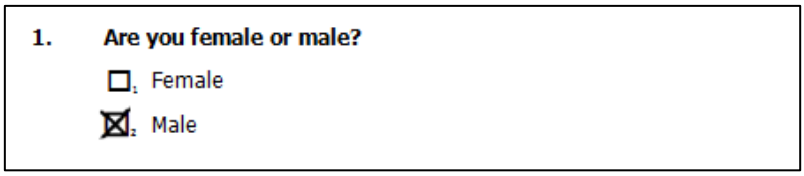


Figure 4-77: Example of valid response to categorical question

- **Example 2 (cancelled response in a categorical question with 1 variable)**
  In this example, the respondent cancelled the first response by completely filling the checkbox, then clearly marked the intended box. In these cases, the data should be treated as unambiguous
  → Enter 2

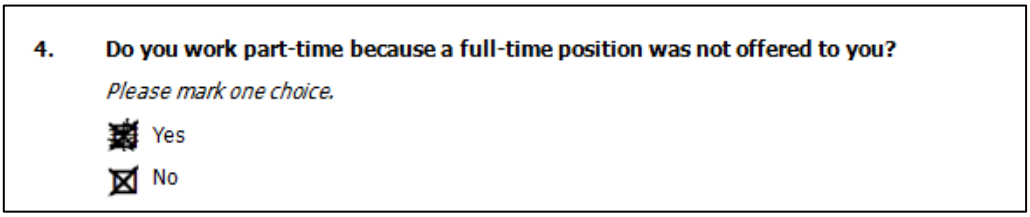


Figure 4-78: Example of cancelled response to categorical question

- **Example 3 (valid and omitted responses in a categorical matrix question with 6 variables).**
  In this example, dimensions A1), A2), B1), B2), and C1) are valid but dimension C2) is omitted and should be entered as "9".

A1)→ Enter 1	**A2)→ Enter 3**
B1)→ Enter 1	**B2)→ Enter 3**
C1)→ Enter 2	**C2)→ Enter 9**

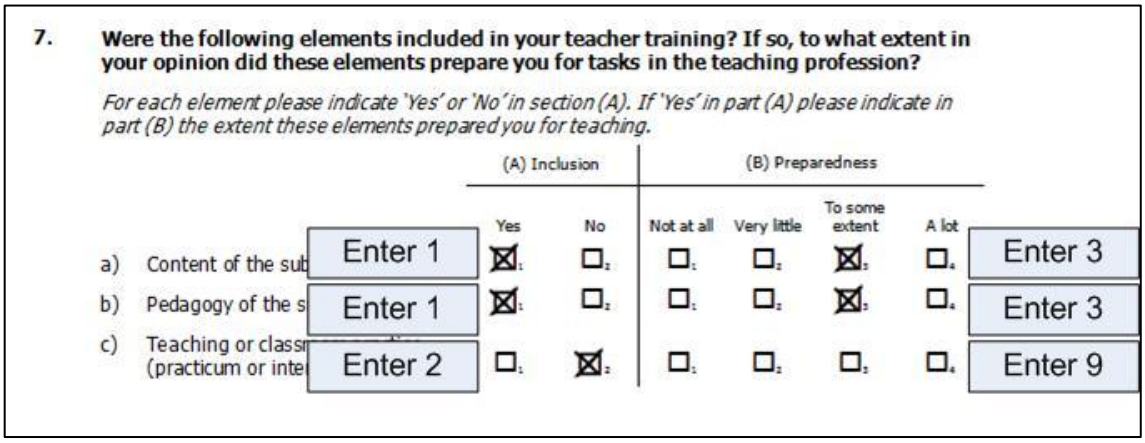


Figure 4-79: Example of valid and omitted responses to categorical matrix question

New

- **Example 4 (valid responses in a categorical "mark-all-that-apply" question and text response).** In this example, all boxes can be marked independently and the available values are "1" for MARKED and "2" for NOT MARKED. The text response to the "Other" category should be entered as it is written.

A) → Enter 9

B) → Enter 9

C) → Enter 9

D) → Enter 1

E) → Enter 9

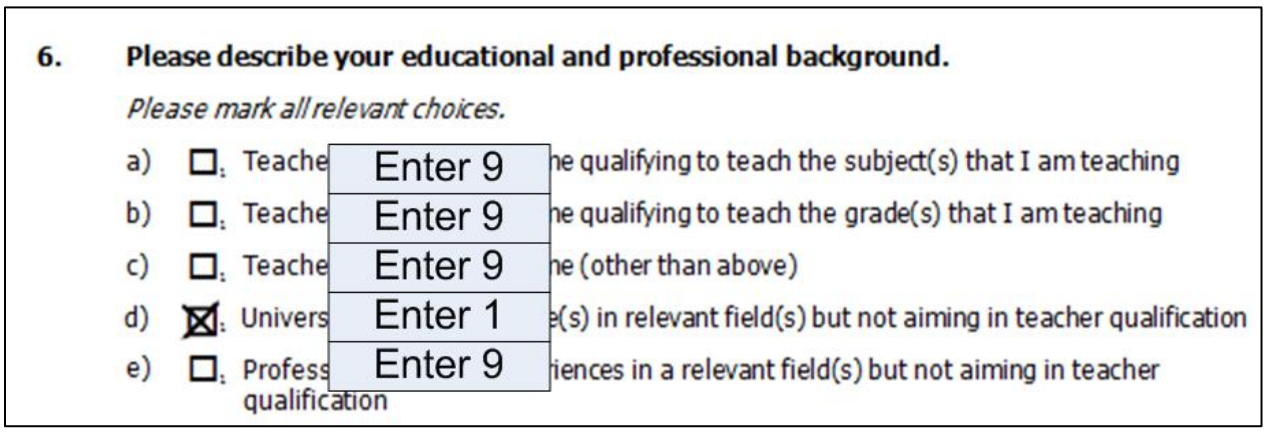


Figure 4-80: Example of valid responses to categorical "mark-all-that-apply" question

- **Example 5 (valid responses to a non-categorical question).** This example shows valid responses to a numerical open-ended question. Values should be answered "as is", unless they are ambiguous, (*e.g.* because a range such as 90-110 was given)

→Enter 40.

2. How old are you?

Please write a number.

4	0	years

Figure 4-81: Example of a valid response to a non-categorical question

- **Example 6 (valid responses to a filter and dependent question).**
  In this example the respondent correctly omitted the dependent question [4]. This dependent variable should be entered as "9" for OMITTED following the basic rule that data entry for one variable should be the same regardless of other questions, in this case the filter question [3].

  [3] →Enter 1.

  [4] →Enter 9.

3. What is your current employment status as a teacher?

Part-time employment is where the contracted hours of work represent less than 90 per cent of the normal or statutory number of hours of work for a full-time employee over a complete school year. Please consider your employment status for all of your current teaching jobs combined.

Please mark one choice.

- [x] 1 Full-time → **Please go to Question 5.**
- [ ] 2 Part-time (50-90% of full-time hours)
- [ ] 3 Part-time (less than 50% of full-time hours)

4. Do you work part-time because a full-time position was not offered to you?

Please mark one choice.

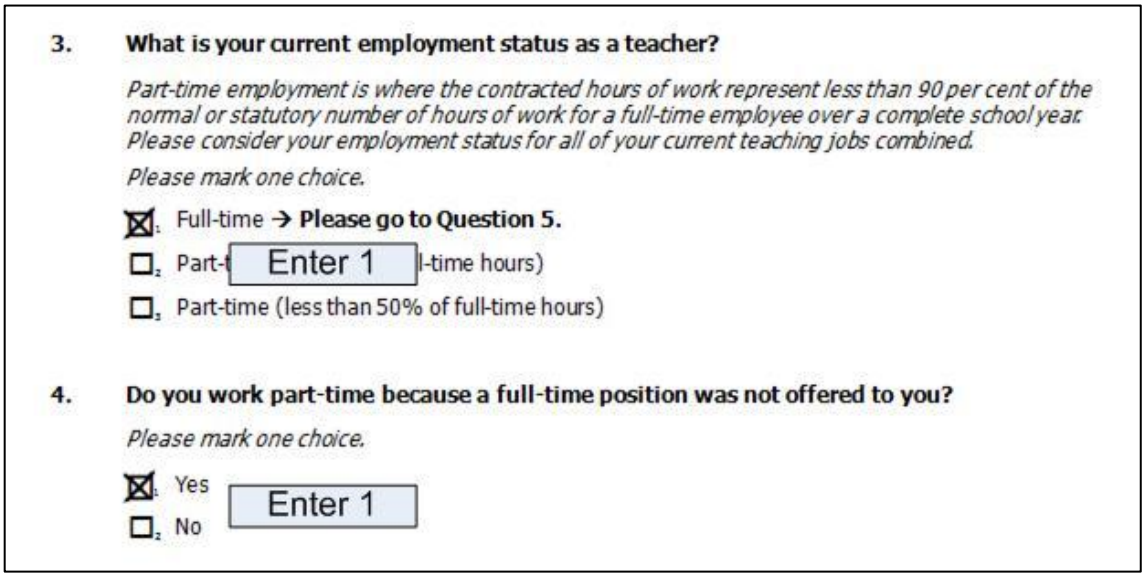
- [ ] 1 Yes
- [ ] 2 No

Figure 4-82: Example of a valid response to a filter and dependent question

- **Example 7 (responses to a filter and dependent question, logically inconsistent).**
  In this example, the respondent answered the dependent question and should have continued with question [5], yet still provided an answer in the dependent question [4]. However, during data entry, this data should be entered "as is", even if logically inconsistent!!!

  [3] →Enter 1.

  [4] →Enter 1.



3. **What is your current employment status as a teacher?**

Part-time employment is where the contracted hours of work represent less than 90 per cent of the normal or statutory number of hours of work for a full-time employee over a complete school year. Please consider your employment status for all of your current teaching jobs combined.

Please mark one choice.

☒ 1 Full-time → **Please go to Question 5.**

☐ 2 Part-t Enter 1 l-time hours)

☐ 3 Part-time (less than 50% of full-time hours)

4. **Do you work part-time because a full-time position was not offered to you?**

Please mark one choice.

☒ 1 Yes Enter 1

☐ 2 No

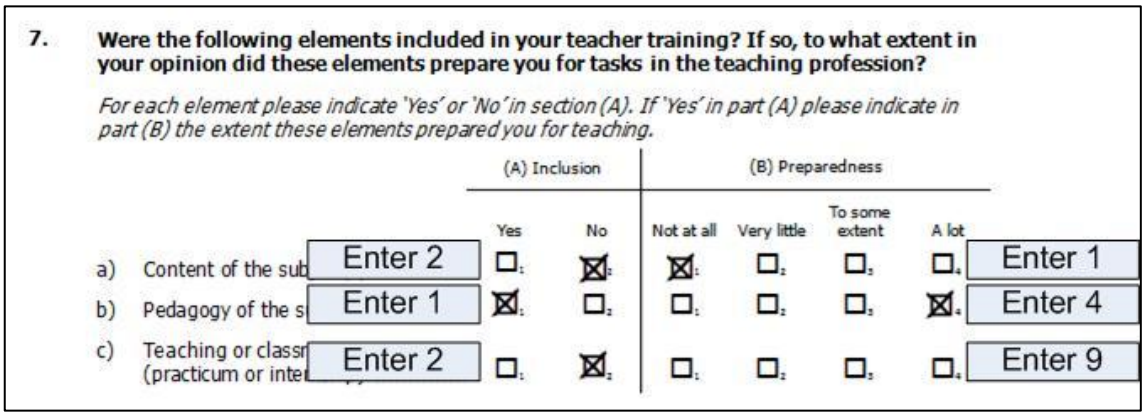
Figure 4-83: Example of a logically inconsistent response to a filter and dependent question

- **Example 8 (Matrix question with filter dependent part on the right).**
  This example, by far, is the most complex one that TALIS has to offer. Yet data entry is relatively straightforward. The first part is a typical categorical question with codes "1" for YES, "2" for NO and "9" for OMITTED. The second part consists of questions that are logically subject to the responses in the first part. Regardless of logically consistency, all responses to the first and the second parts must be entered independently.

A1)→ Enter 2 **A2)→ Enter 1**

B1)→ Enter 1 **B2)→ Enter 4**

C1)→ Enter 2 **C2)→ Enter 9**



7. **Were the following elements included in your teacher training? If so, to what extent in your opinion did these elements prepare you for tasks in the teaching profession?**

For each element please indicate 'Yes' or 'No' in section (A). If 'Yes' in part (A) please indicate in part (B) the extent these elements prepared you for teaching.

			(A) Inclusion		(B) Preparedness				
			Yes	No	Not at all	Very little	To some extent	A lot	
a)	Content of the sub	Enter 2	☐ 1	☒ 2	☒ 1	☐ 2	☐ 3	☐ 4	Enter 1
b)	Pedagogy of the s	Enter 1	☒ 1	☐ 2	☐ 1	☐ 2	☐ 3	☒ 4	Enter 4
c)	Teaching or classr (practicum or inte	Enter 2	☐ 1	☒ 2	☐ 1	☐ 2	☐ 3	☐ 4	Enter 9

Figure 4-84: Example of a matrix question

4.5.4.8 First data entry

485. Each puncher must log in with the user login created for him by the Data Manager (see 3.5.2). A window showing all data tables will open. The puncher selects the data table that corresponds to the batch of sheets he is responsible for, so he must select one of the data tables for the first data entry (these are the datasets TCG, TTG, or TTM) or for the second data entry (these are the datasets TCGD, TTGC or TTMD). For more detailed information on the different types of sheets and how they are related to data tables, please refer to Section 4.2.3 and 4.2.4.

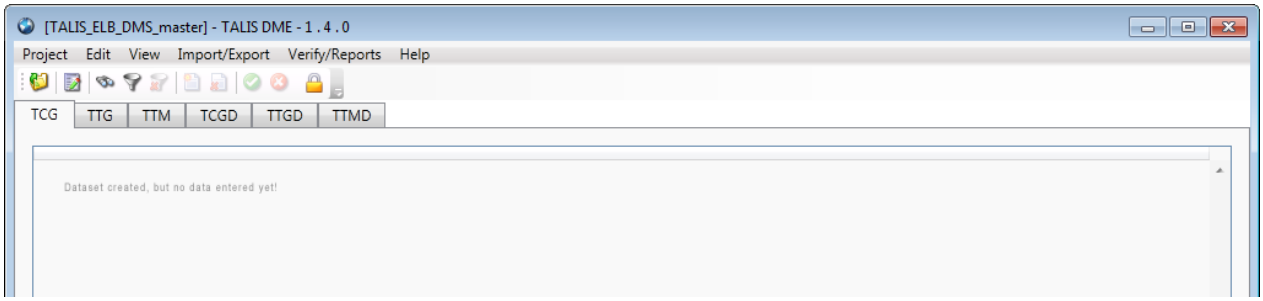


Figure 4-85: Data Table window (selecting a data table for data entry)

486. In order to open the Data Entry window please select **Data Entry…** from the **Edit** menu:

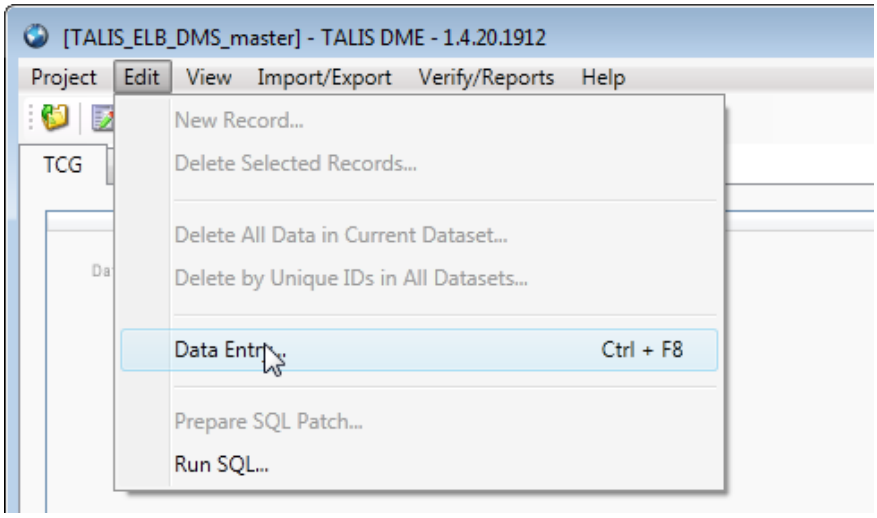


Figure 4-86: Opening the Data Entry window

487. In Figure 4-87 below you can see how a Data Entry window with a complete record appears:

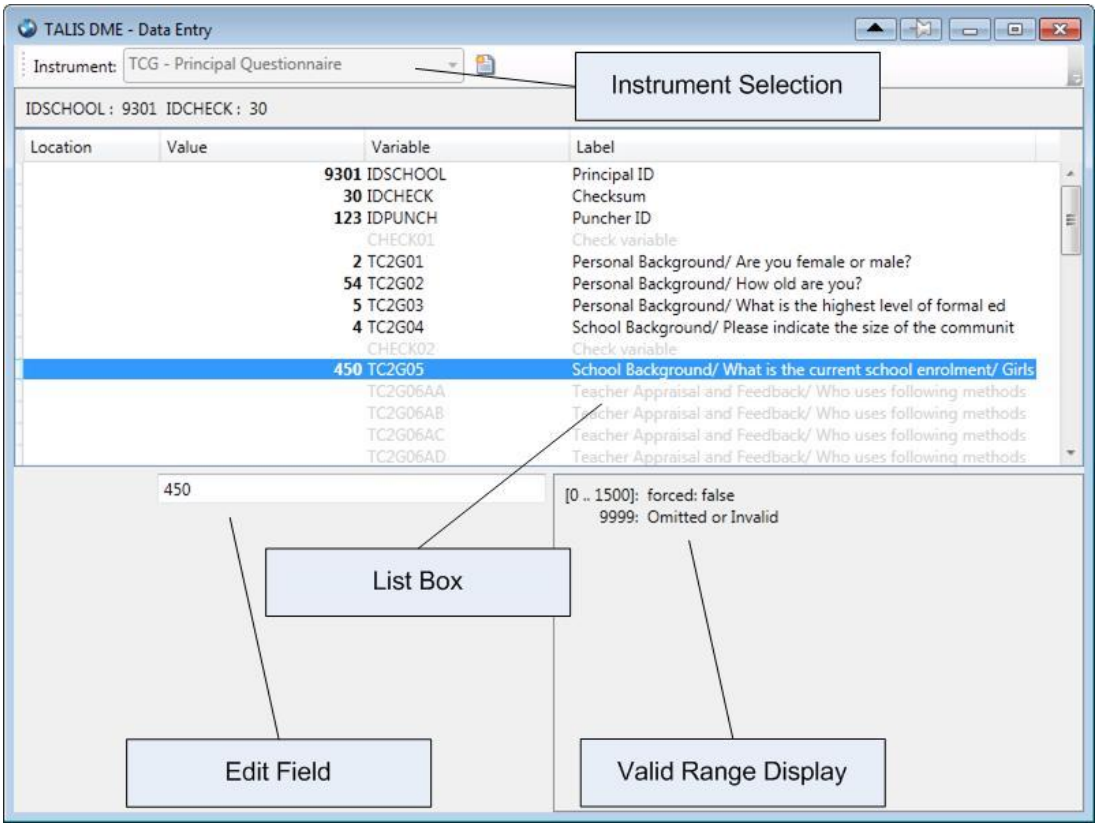


Figure 4-87: Data Entry window (filled record)

488. To create the first (or a new) record press the **Create New Record** button.

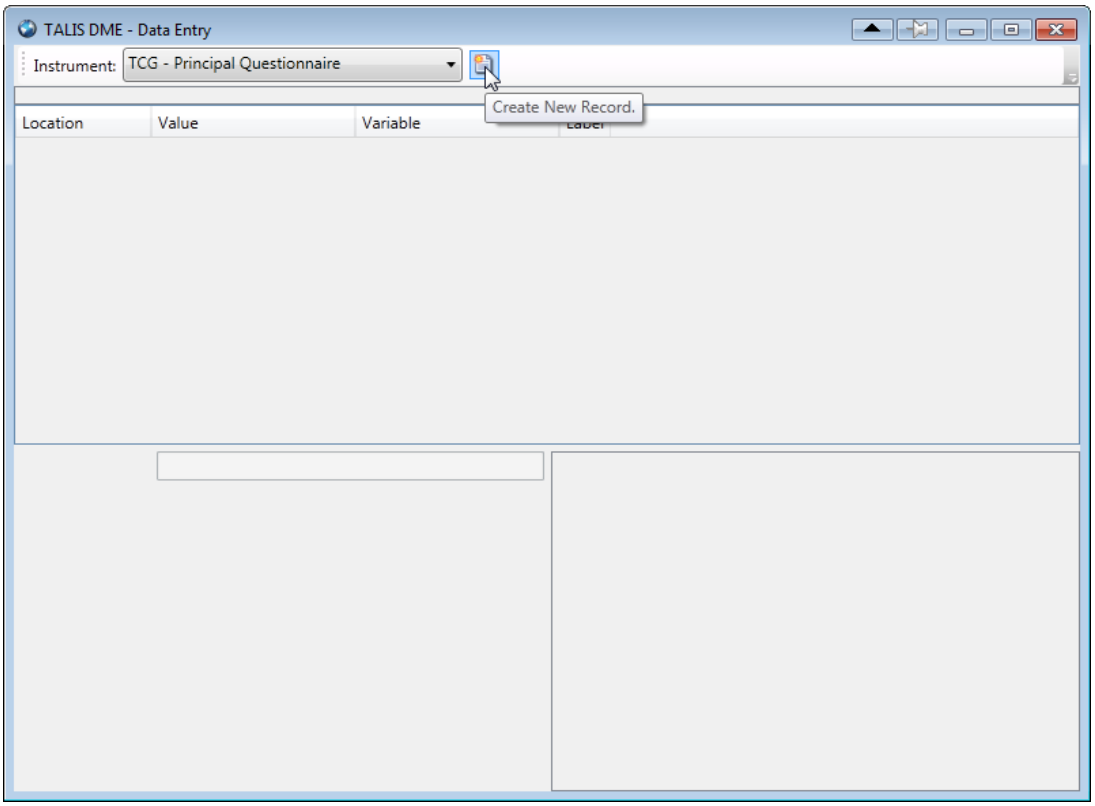


Figure 4-88: Data Entry window (new record)

489. The variable sequence in the Data Entry window follows the sequence of the questionnaire label and questions in the questionnaires. At first, only the ID variable and checksum will be displayed. Once you have entered both values in the box and confirmed your entry, all other variables will be displayed in a grey colour, indicating uncompleted variables.

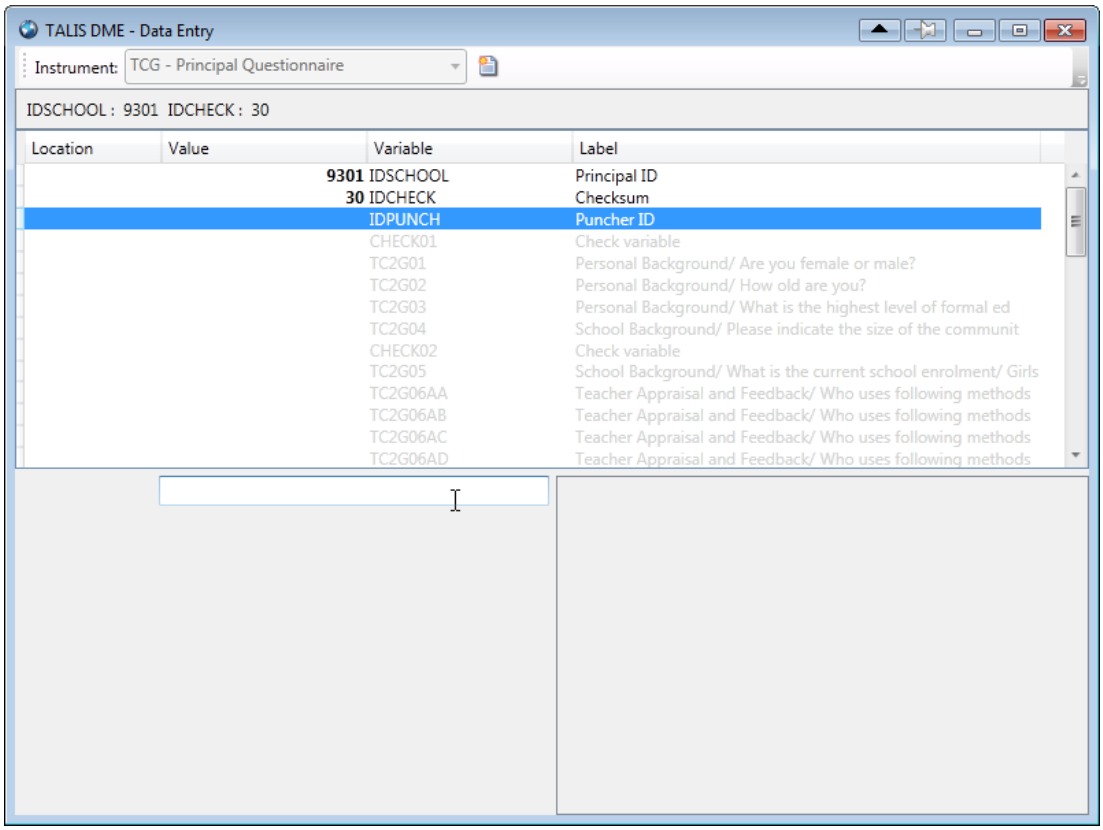


Figure 4-89: Data Entry window (entering values)

490. Now, the remaining header information and the value for each question can be entered by the puncher.

Please Note:

It is very important that the puncher follows the sequence of the variables on the sheet to avoid unintended row shifts.

491. The easiest way to enter the data is using a keyboard. For faster data entry use the number pad on your keyboard, or an external USB *etc*. number pad, instead of the number keys on top of the keyboard.

492. When you enter a valid value for a variable it will be no longer displayed in a grey colour but in bold black. It is not possible to leave a variable empty and go to the next one. You only can jump between variables which are already entered and displayed in bold black font.

493. The values you enter are checked for validity. If a value is not valid you cannot assign it to the variable. In that case you will be noticed by an error message and have to enter another value.

New

494. Some respondents will return questionnaires which are not completely filled. To speed up data entry, it is possible to fill all remaining values per record with omitted values.

495. To fill all remaining values for the current record with omitted values and exit the data entry mask of the DME, select **Finish Record** button.

496. To fill all remaining values for the current record with omitted values and continue data entry for the same instrument, select the **Create New Record** button or use the keyboard shortcut CTRL+N.

497. Both of the buttons will prompt the question if you want to start a completely new record and discard the current one (you lose all data entered for the current record) or if you want to autocomplete using omitted values.

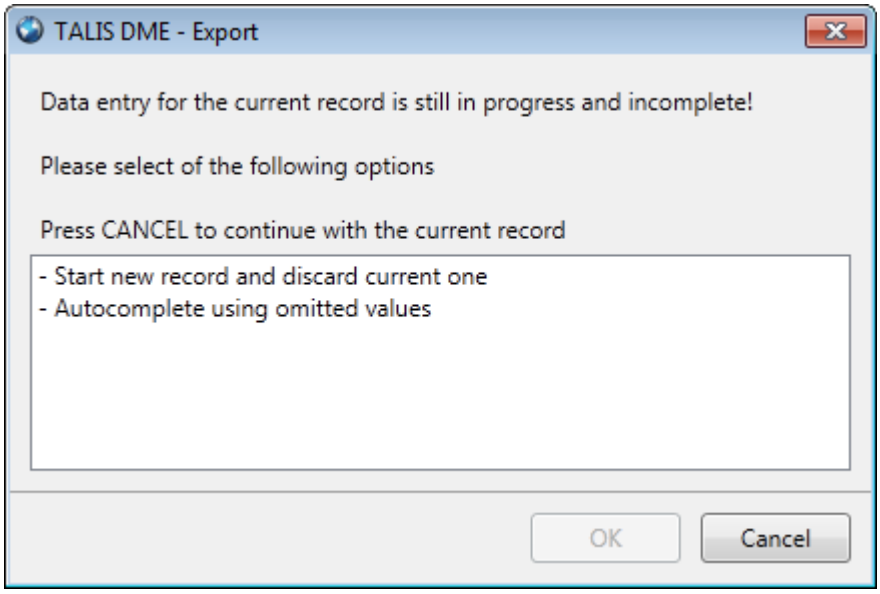


Figure 4-90:Autocomplete using omitted values

- If you try to enter a value which is longer than the variable width you will get the following error.

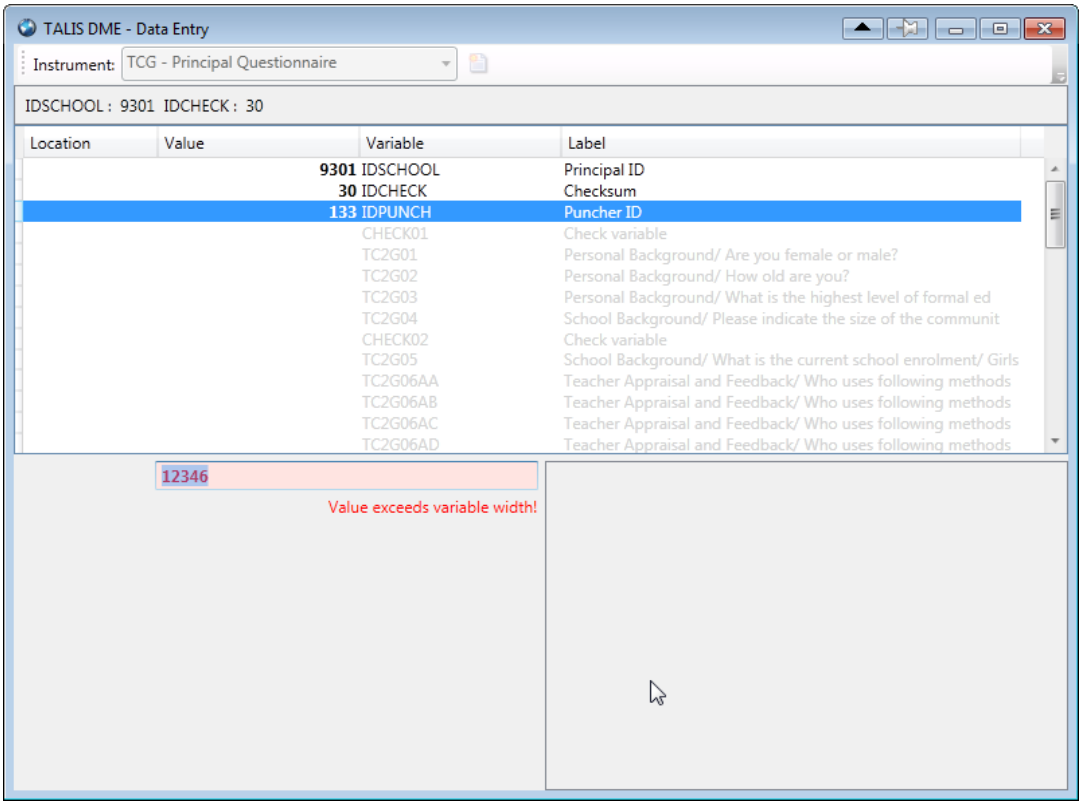


Figure 4-91: Exceeding the variable width, e.g. for IDPUNCH

- If you enter a value outside the valid range of the variable and the variables range force flag is set you will get following error:

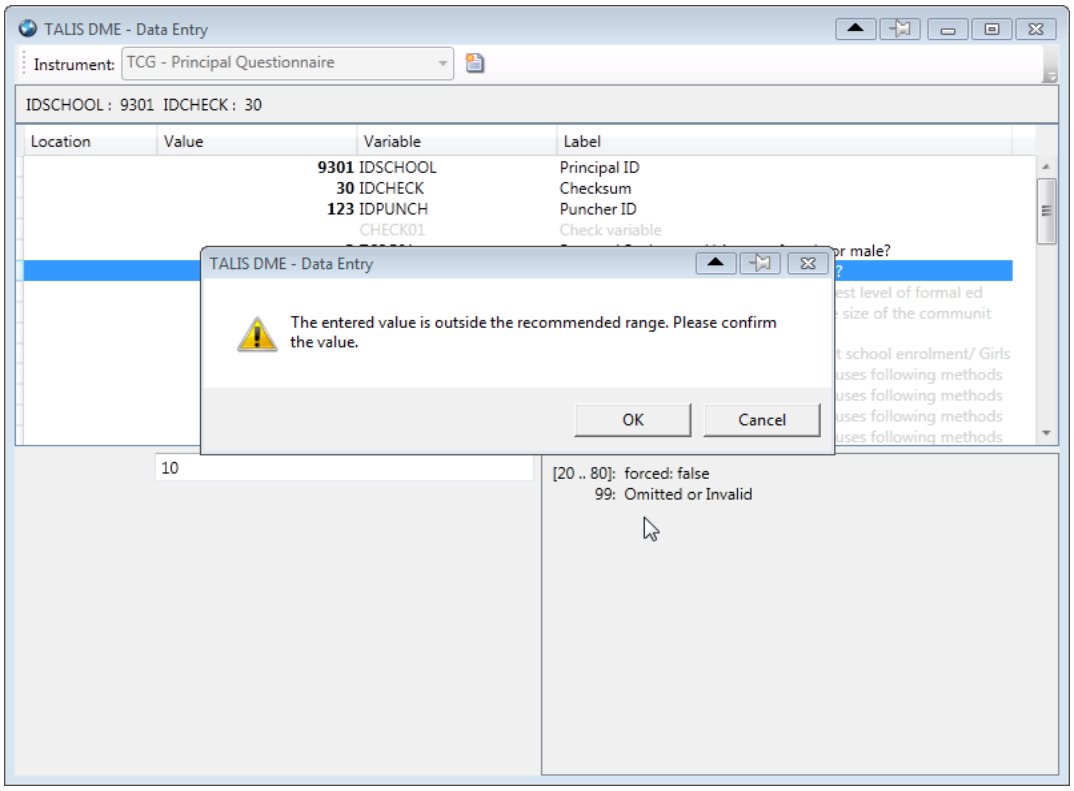


Figure 4-92: Value out of range

- If you enter a value which does not correspond to the valid value scheme or the missing value scheme displayed, you will also see an error:

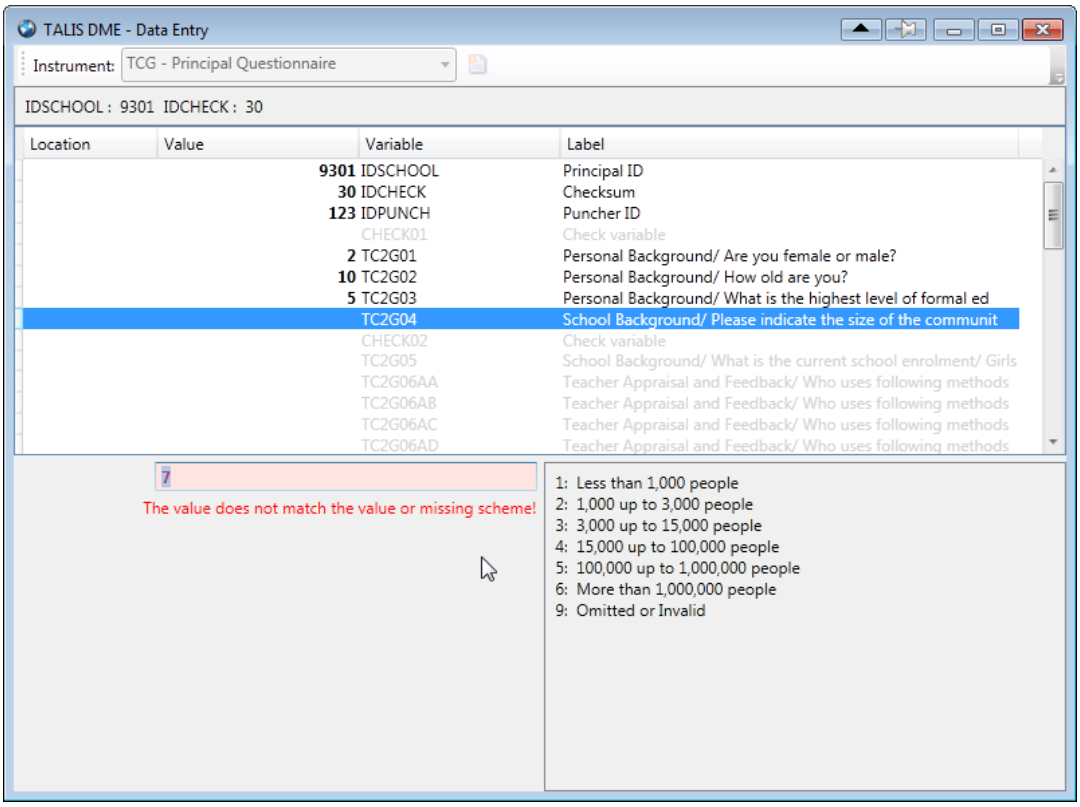


Figure 4-93: Value is not valid error

- If the entered school or teacher ID does not match to the checksum, you will get a checksum error.

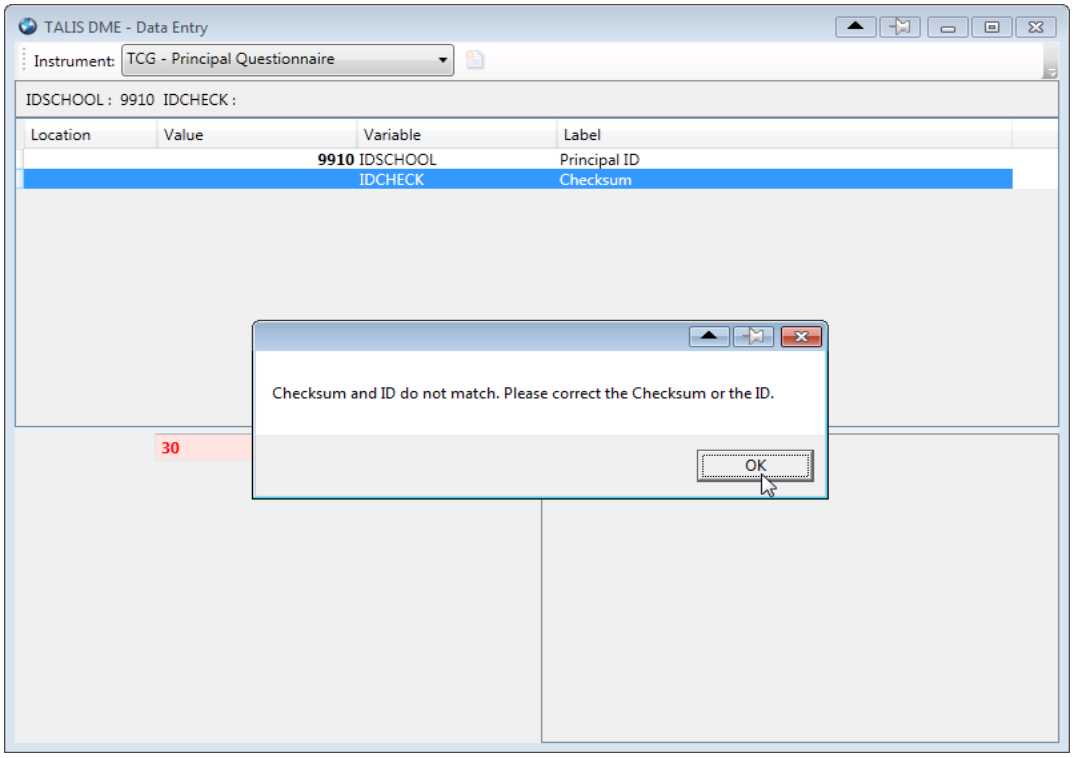


Figure 4-94: Checksum error

498. After you have entered a record completely, *i.e.* when pressing the enter key for the last variable, you will be asked whether you want to add a new record. If you confirm this message, a new record is created automatically. By default, data entry will continue for the same instrument.

499. Once data have been entered, the corresponding datasets is filled. The tables are locked for editing, but can be unlocked by clicking the lock icon (see Figure 4-95 below). A pencil icon will now be displayed and all records will appear with a white background. For more information on viewing, filtering, and editing data in datasets please refer to section 4.5.5.

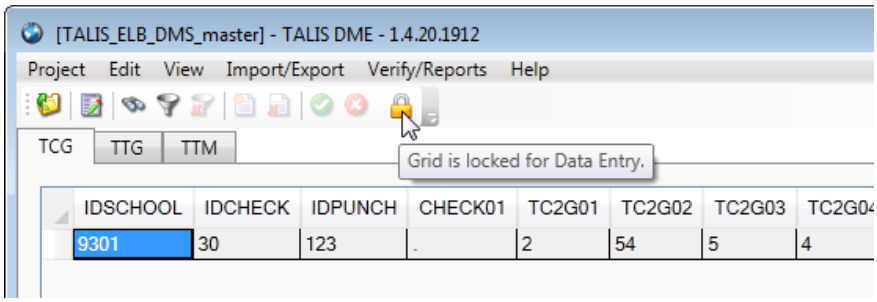


Figure 4-95: Editing in data set tables (unlock)

4.5.4.9 Second data entry (double punching).

500. According to the TALIS Standard 10.8, all non-blank Principal Questionnaires and a minimum of 100 Teacher Questionnaires need to be entered a second time by a different puncher. Please proceed the same way as described in the section above regarding the first data entry and make sure that the puncher selects one of the data tables corresponding to the second data entry (TCGD, TTGD or TTMD).

501. This implies that a minimum of two individuals must be assigned to enter data from each questionnaire, regardless of the actual volume of work.

Please Note!

The first and second data entry need to be done by two different punchers!

4.5.4.10 Storing materials after data entry

502. Once the manual data entry is completed, all paper questionnaires should be stored in a safe place together with the Tracking and Listing Forms. NDMs are expected to ensure that all survey instruments can be easily accessed. Most likely, you will need to look up these original materials 1) when performing the required verification checks with the DME after all data have been entered and 2) during the time your data will be cleaned and verified by the IEA DPC on the international level.

4.5.5 Viewing, filtering, and editing data in datasets

503. After you have completed the creation of variables and assigned them to datasets and instruments, you will be able to create data tables. All datasets are displayed as tabs. You can switch between them by simply clicking on the specific tab. In Figure 4-96, you can see all six datasets displayed in tabs. If you were to click on the name of another dataset its values would be shown in the grid view below the list of the datasets.

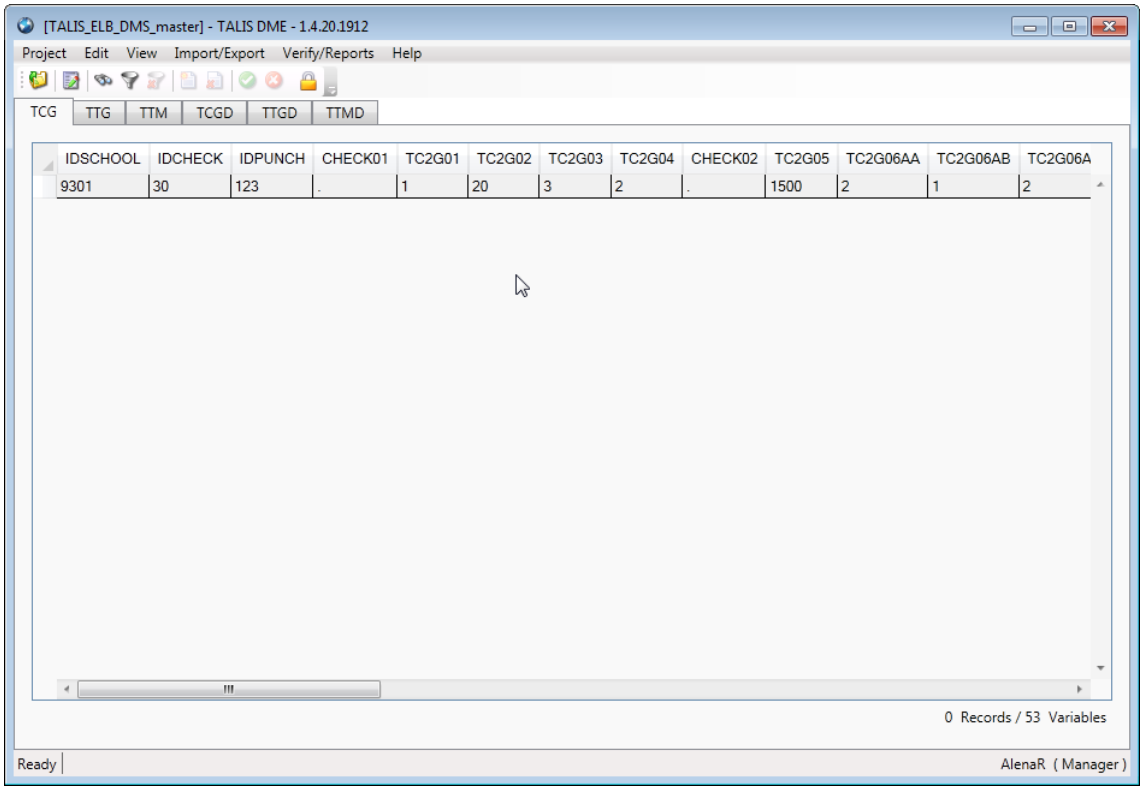


Figure 4-96: Data grid view – read-only

504. While all fields of the data tables have a grey background you cannot change the values of the variables in this main window view.

505. To change variables values directly you have to click on the button. After clicking this button the background of the data tables will change to white. Now you are able to change data directly inside the main window. Use this with care!

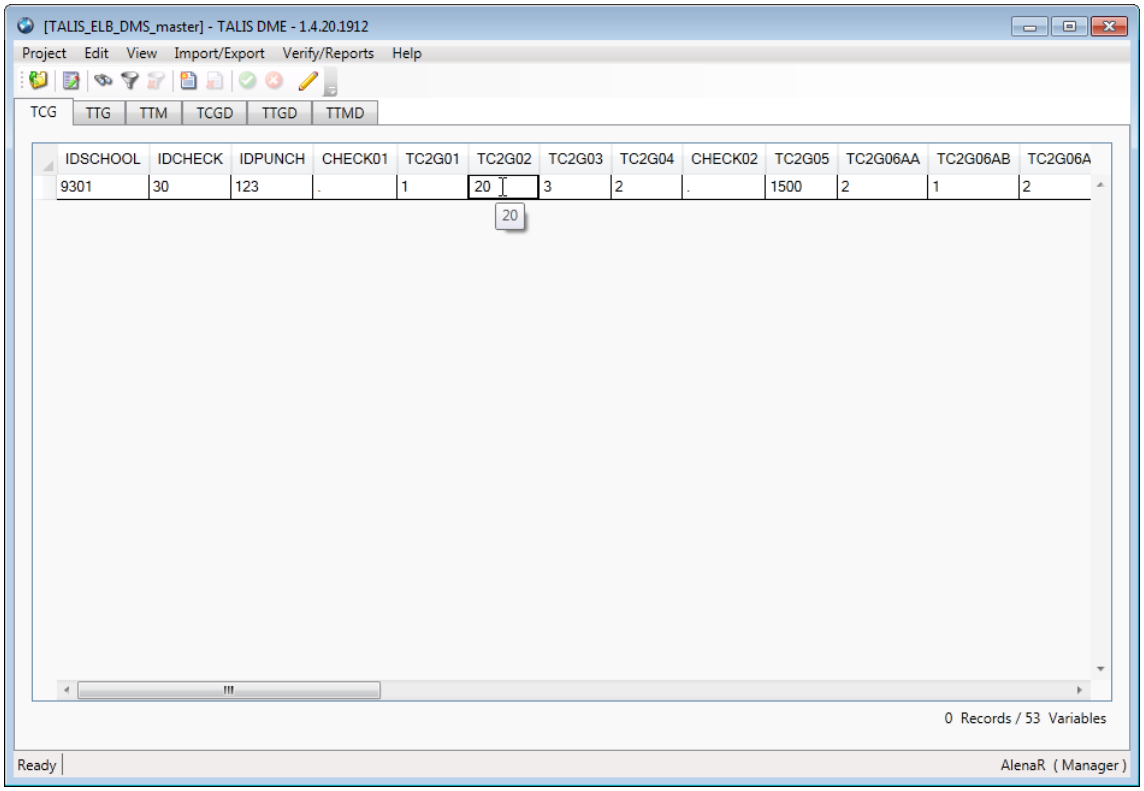


Figure 4-97: Data grid view – read/write

506. Direct editing should only be used by NDMs or NPMs in order to correct single values or records during data verification and checking. The main data entry should be done using the data entry dialogue. You can re-lock the data grid by selecting the button.

507. To add new records to the dataset select the button. To delete a record in the dataset select the button. This button will only be activated once you have selected an entire row/ record within the dataset. In order to mark one or more records, click into the grey space in front of the corresponding records.

508. In order to save your changes you <u>must</u> submit them with the button! If you do not want to submit your changes, click the button.

509. Whenever data have been changed but this has not yet been saved or reverted, this will be indicated with red font of the dataset name in the tab of the dataset (see Figure 4-98 below). If you attempt to close the project you will be asked to either save or undo your data changes first.

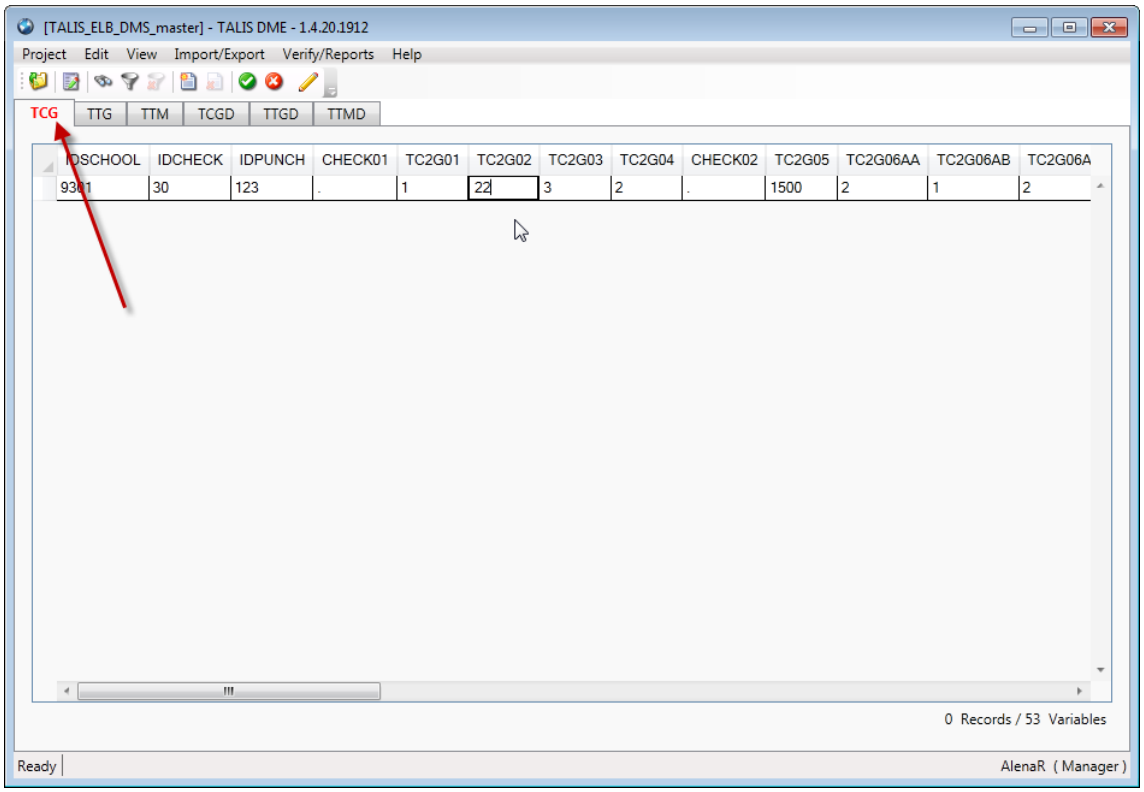


Figure 4-98: Data grid view – read/write

510. DME offers the possibility to filter and restrict the view of your data. This could be useful if you only wanted to display a subset of records. For example you might only want to see records with a IDSCHOOL lower than 9400 (to omit any National Schools). To do this, you can go the **View** menu and click on **Filter Records** or you can use the keyboard shortcut CTRL+F2. Yet another possibility is to click the icon.

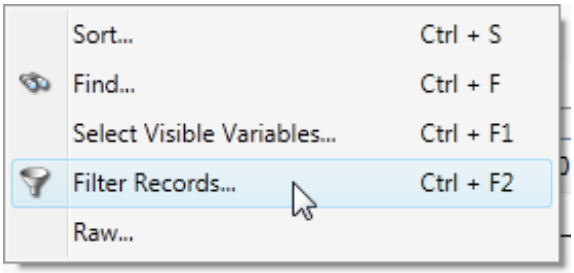


Figure 4-99: Filter records in 'View' menu

511. A window will appear where you can type in your conditions. The conditions you can use follow SQL Server (T-SQL) syntax for WHERE clauses.

512. Common comparison operators include:

- = (Equals), *e.g.* IDTEACH = 930101
- != (Not Equal To)
- > (Greater Than)
- < (Less Than)
- !< (Not Less Than)
- >= (Greater Than or Equal To)
- !> (Not Greater Than)
- <= (Less Than or Equal To)

513. Common logical operators include:

- *IN* (to compare against a list of values), *e.g. IDTEACH IN (930117, 930124, 930101)*
- *NOT IN*, the negation of IN, *e.g. IDTEACH NOT IN (930117, 930124, 930101)*
- To find blank cells (displayed as dot '.' in the grids), use:
- *IS NULL*, *e.g. TC2G06AC IS NULL* or
- IS NOT NULL, *e.g. TC2G06AC* IS NOT NULL

514. To compare against string variables, use single quotes as in, for example: *TT2G06FT = 'text1'*.

515. There is no limit to the number of predicates, separated by AND or OR clauses, that can be included in a search condition.

516. In the example in Figure 4-100, the condition is *IDSCHOOL <9400*, meaning only records with an IDSCHOOL lower than 9400 would be displayed.

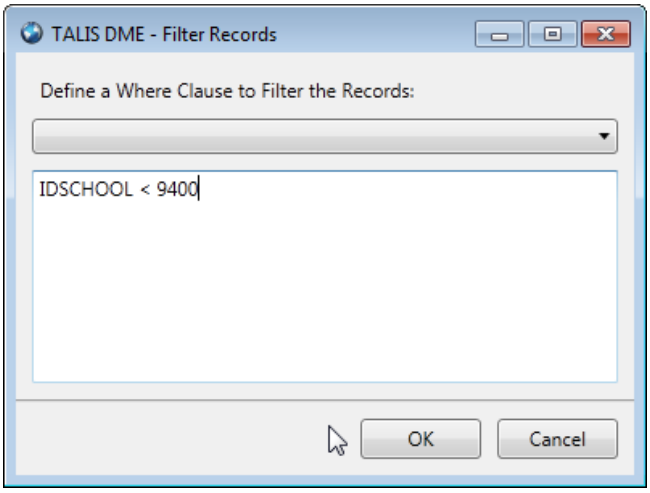


Figure 4-100: Filter Records dialogue

517. After you have entered your condition to filter the records you have to confirm with the **OK** button. Now you will only see records that fulfil the filter condition in the data table's grid view.

518. Filters that have been applied once will be available for future use in the drop-down list of the filter window.

519. To reset the filter in order to see all records again you have to click on the button.

New

520. The following keyboard shortcuts are available to easier edit the data tables:

- Ctrl+C to copy
- Ctrl+V to paste
- Ctrl+Z to undo
- F2 to edit cell content
- ENTER to confirm edited values and to jump from one row to the next
- UP, DOWN, LEFT, RIGHT to navigate in the grid
- ESCAPE to exit edit mode
- BACK to delete values that can be edited

4.5.6 Exporting data to flat files

4.5.6.1 Use in TALIS

521. The DME software provides users with the possibility to export data that resides in the datasets to various flat file formats. Exporting data may facilitate various processes that need to take place within a country's national centre. For instance, the exported data might serve as input for external automated systems that deal with coding, verification or confidentiality issues, as well as the manual processes of data review, interview QC or preliminary analysis.

4.5.6.2 Supported formats and requirements

522. The DME currently supports exports to Excel (2003 format), CSV and fixed-length text.

523. In order to perform an export from the DME, the data table must already exist. The export works from single datasets and therefore only data from one dataset at a time can be exported.

524. In the case of an empty dataset, and empty file will be exported, but an export to CSV or Excel formats will still contain the selected variable as headers. This might still be useful in order to create a template for the future import of data.

4.5.6.3 Exporting data

525. The export of data from DME always needs to be done on dataset level. The desired dataset for export needs to be active (*i.e.*, the tab is selected in the grid view).

526. In order to perform an export from the DME the **Export** option from the **Import/Export** menu needs to be selected.

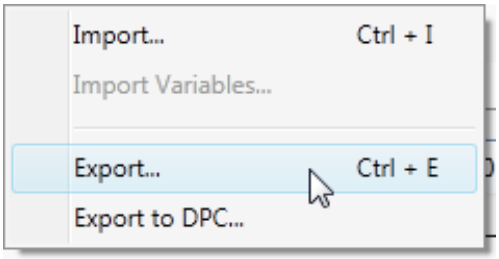


Figure 4-101: Export options

527. A window will appear asking the user to specify the desired export format (Figure 4-102). After having chosen the format, another window will appear where the user can select certain variables from the selected dataset for export (Figure 4-103).

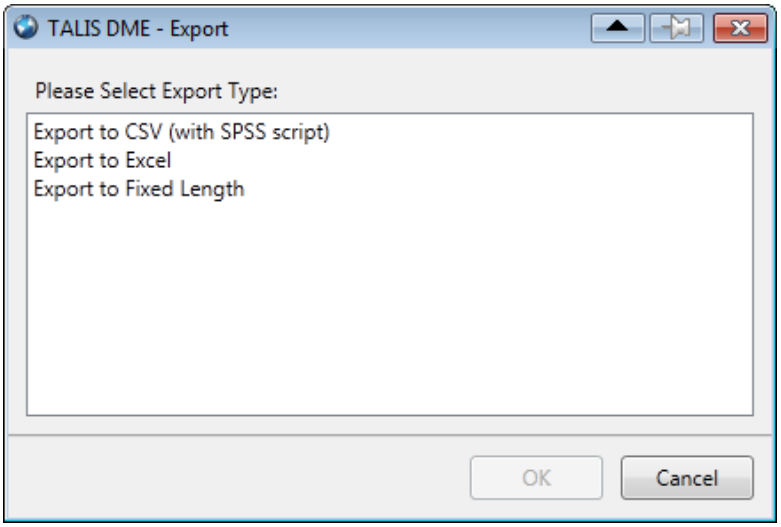


Figure 4-102: Selection of export format

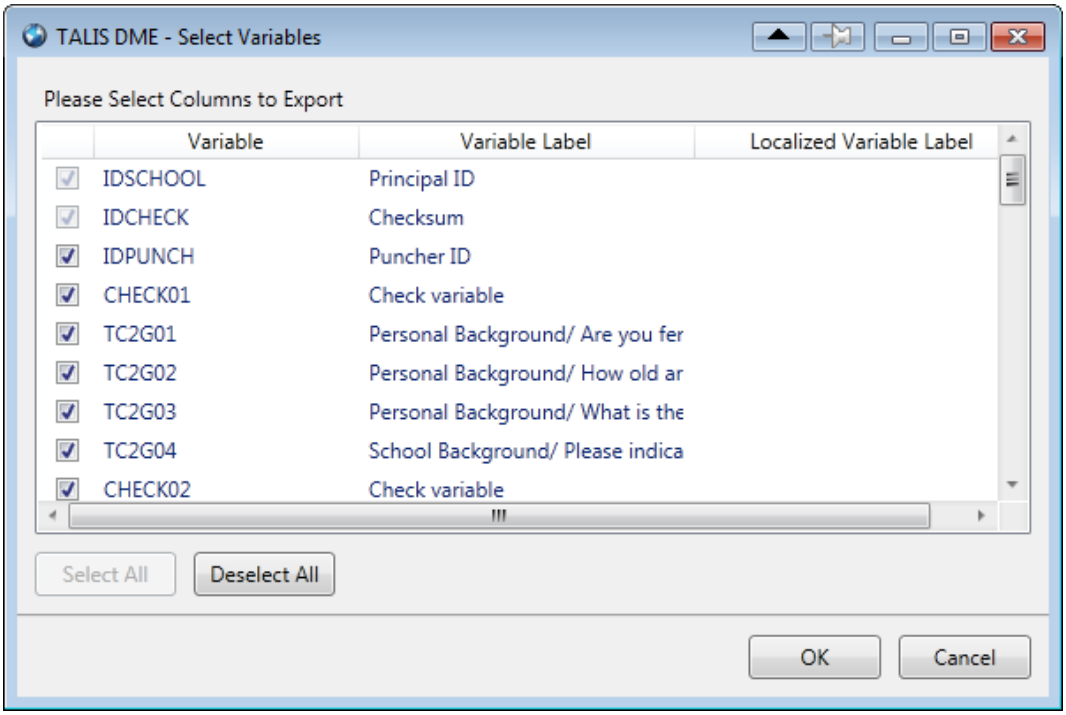


Figure 4-103: Selection of variables to export

528. In order to reduce the number of records and allow only certain subsets to be shown, it is possible to filter the datasets by defining a clause with one or more conditions. Only those records matching the criteria in the filter clause will be displayed and later exported. To do so, you would select the Filter icon on the tool bar or the menu entry **Filter Records** from the **View** menu.

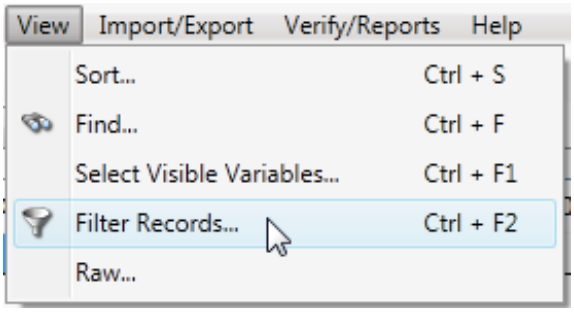


Figure 4-104: Filter records for export

529. Note that NULL (default) values in the database are represented in fixed length output as blanks, as empty cells in Excel, and empty elements in CSV, after export.

530. Note that string variables including semicolons will be enclosed in double quotes in CSV and fixed-length text. Double quotes in strings will be escaped by double quotes.

531. In Excel exports, worksheets are labelled according to the exported dataset acronym.

532. All data exports to the project's default "Export" sub-folder.

New

533. The export to either CSV, Excel or fixed length format also always creates a text file output of the codebook. For the TALIS 2013 Main Study this output also includes univariate statistics. The file is called <datatable name>.xlsx.codebook

```
6  TT2G02

   Label                Background/ How old are you?
   LabelLocalized
   Type                 Integer
   Level                Scale
   Width/Decimals       2.0
   Columns              15-16
   Range                [15..80] forced: false

   ValueScheme          n/a

   MissingScheme (1)                                  Percent  Valid Percent
                        99   Omitted or Invalid        0.00%     0.00%

   IsNational           false
   IsSuppressed         false
   DataEntryCarryOn     false
   DataEntryHidden      false
   DataEntryNote
   Domain               Background questionnaire
   Coverage
   Comment

   Univariate statistics
                    Minimum          11.00
                    Maximum          56.00
                    Mode             28.00
                    Mean             31.00
                    Variance         214.80
                    Standard dev.    14.66
                    P5               11.00
                    P25              22.00
                    Median           28.00
                    P75              48.00
                    P95              56.00
```

534.

Figure 4-105: Text output of codebook with univariate statistics

4.5.6.4 Considerations for handling exported data

535. Exports to CSV and fixed-length text are made to Unicode file streams by the DME. This implies that so-called byte order marks (BOM)[2] are written to the beginning of a file. All modern text editors and applications, including Excel, Access, PASW/SPSS and SAS can interpret these BOMs.

536. The file encoding in DME is UTF-8, the most widely used text encoding. In SPSS, the import of UTF-8 encoded text data works fine for numerical data and string data using only basic characters (UTF-8 maintains ASCII compatibility by preserving the ASCII characters in code positions 1 to 128). If you need to import complex script strings into SPSS, the SET UNICODE NO|YES option can used to control the default behaviour for determining the encoding for reading and writing data files and syntax files. Data and syntax files saved in Unicode encoding should not be used in SPSS releases prior to 16.0. You should open the data file in code page mode and then resave it if you want to read the file using earlier versions.

Please Note!

While working in many environments, the UTF-8 byte-order-mark may not be interpreted correctly by some software systems.

[2] For further information, see for example: http://en.wikipedia.org/wiki/Byte_order_mark

4.5.7 Importing data from flat files

4.5.7.1 Use in TALIS

537. In addition to exporting data, it is also possible to import data to the DME database. This is especially of use to countries which scan their data instead of entering it manually.

4.5.7.2 Supported formats and requirements

538. It is possible to import data saved in three main formats (CSV, fixed-length, Excel) into your datasets. The general requirements for all file types that need to be met for a successful import are:

- Variable names must precisely match the variable names in DME. No name-mapping mechanism is available.
- Import files must include, as a minimum, the unique ID (IDSCHOOL or IDTEACH) and one content variable for at least one data record.
- Import data must match variable specifications given in the Codebook for the respective variable. Otherwise the import will abort, *e.g.* due to violations of length, precision, value scheme, or range.

539. Import format constraints that are specific to the import of an Excel file are:

- The data needs to be stored as text (see Figure 4-106).
- The import files must only have one worksheet.

4.5.7.3 Importing data

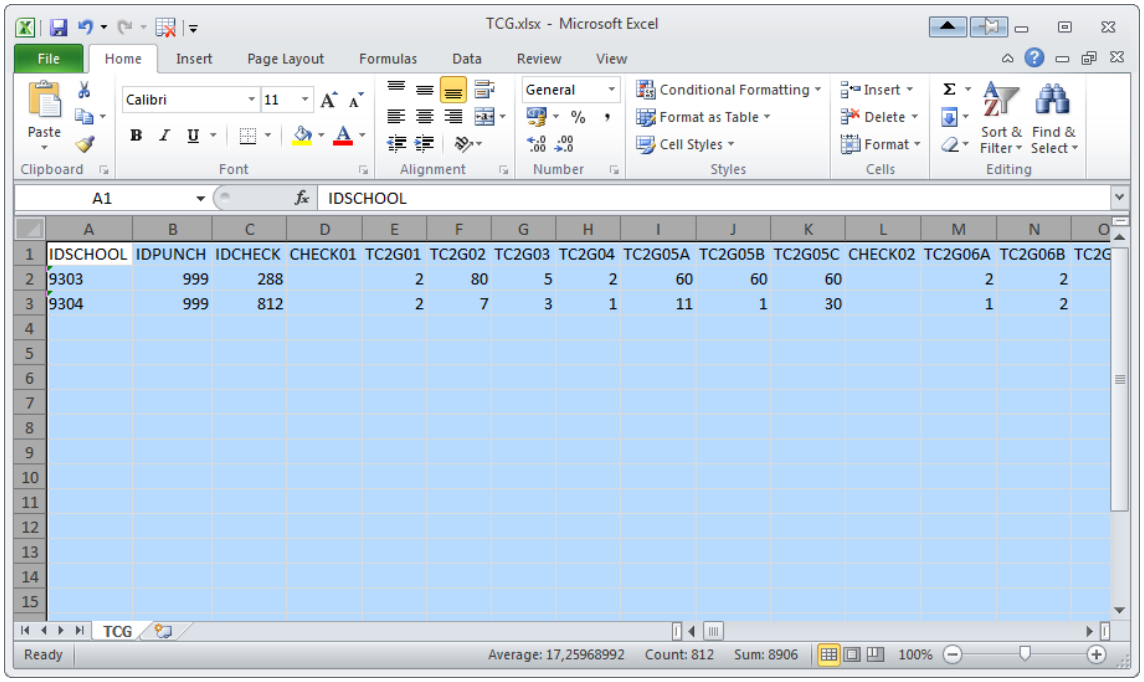


Figure 4-106: Import of an Excel File

540. Specific import format constraints for CSV format are:

- Column / variable names have to be separated by semicolons in the first row (the header row).
- Data values for each record need to be in the same sequence as the variables in the first row.

- Each data row has to have the exact same number of variables (and therefore, the same number of semicolon delimiters).
- Strings that include semicolons must be enclosed in double quotes.
- Double quotes in strings must be escaped by double quotes.
- Decimal separators for numeric/float variables in CSV and fixed-length files must use the delimiter defined by your system's locale, *e.g.* "." in the U.S., "," in Germany.
- If no data is available and two separators follow each other without a value in-between, for this variable the field in the DME dataset will be set to database NULL (default).

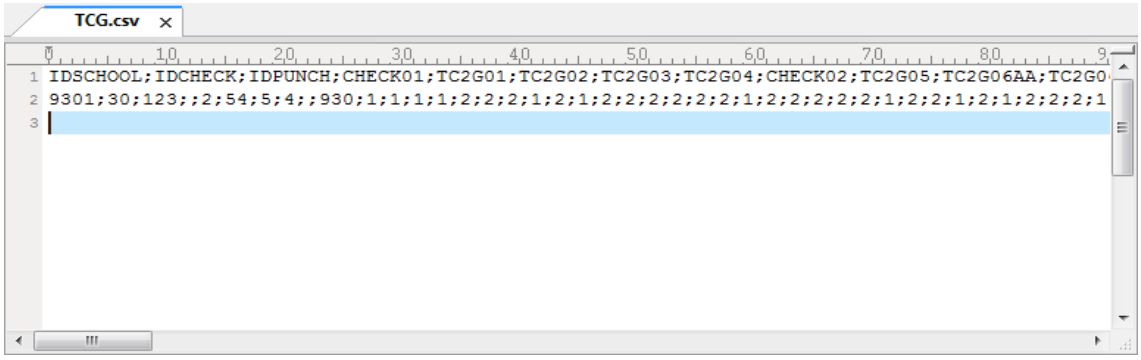


Figure 4-107: Import of a CSV file

541. Specific import format constraints for fixed length format are:

- No first row with variable names is to be included. You must specify the included variables and their sequence on import.
- Values need to be in a specific position (column) in the file. Refer to exported codebooks for specification of each variable's position.
- Use a sequence of blanks (depending on the variable's width) if no value should be imported.

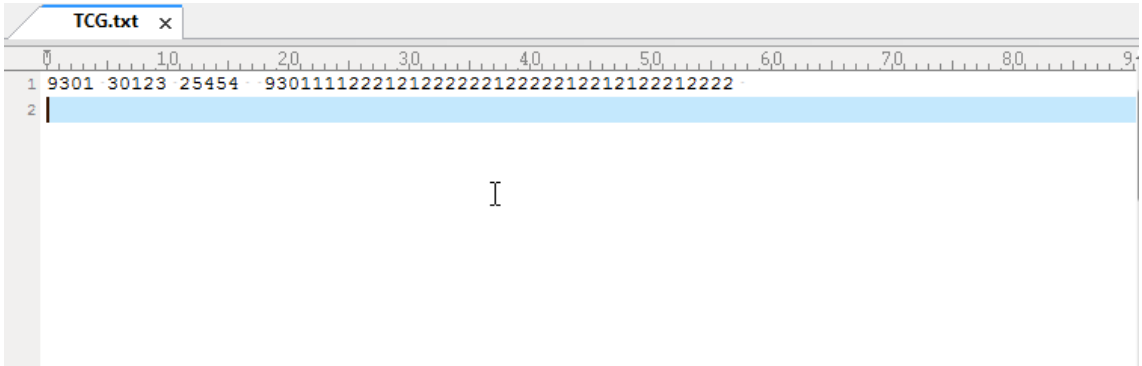


Figure 4-108: Import of a fixed-length text file

4.5.8 Checklist

- ✓ Read and understand the data sources, flow and tasks for integrating TALIS data to a single national database.
- ✓ Read and understand how to view, filter and edit data in datasets.
- ✓ Read and understand how to manually enter data from paper questionnaires, organise materials, train and supervise staff, and assign staff to batches.
- ✓ Organise and supervise the first and second data entries.
- ✓ Check data entry reliability on a regular basis, initially daily, then weekly.
- ✓ Securely store materials after data entry.
- ✓ Read and understand how you can export and import data to and from flat files.

4.6 Verifying and editing data with DME

4.6.1 Overview

542. According to Standard 10.14, each country is required to perform verifications of its national database to identify and, if necessary, resolve errors and inconsistencies in the data. To carry out this important part of the quality control work, this chapter describes the minimally required checks as well as policies regarding the within-country editing of data.

543. If multiple databases have been used during the process, note that the below checks are supposed to be carried out against a single, merged and complete database.

544. This chapter also describes the allowable and required editing of the database in terms of value cleaning, question flow, missing value imputation and confidentiality.

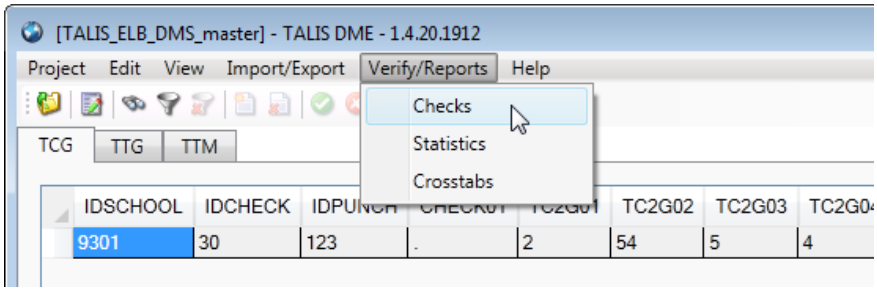


Figure 4-109: Verify/Reports menu

545. Checks and statistics are run from the **Verify/Reports** menu (Figure 4-109). When selecting **Checks,** a window opens from which you can select the check you require (Figure 4-110).

4.6.2 Select data check

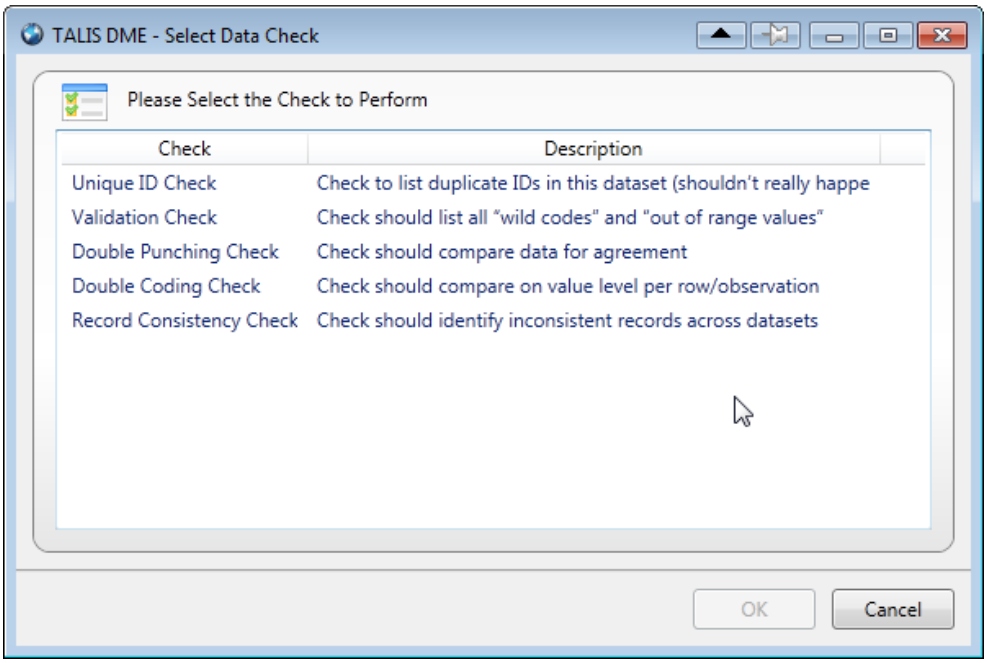


Figure 4-110: Check selection window

4.6.3 Unique ID check

546. The Unique ID check looks for duplicate values in IDSCHOOL and IDTEACH in the selected dataset. Under normal circumstances, no problem should occur and be listed.

4.6.4 Validation check

547. Per dataset, the validation check identifies values that are not in the specified range, or part of the assigned value or missing scheme. A similar check takes place during data entry as well during the import of data. Countries are required to run this check at least once before submission of the database but are recommended to do so, on a more frequent basis.

548. One kind of inconsistency that has to be checked is values which are out of the specified range for non-categorical variables. The program distinguishes between variables where a Range Force flag has been set and consequently no out of range values are expected (Figure 4-111) and those where it has not been set and out of range values still might occur. Consequently, values exceeding this recommended range should be reviewed and either confirmed or changed (*e.g.*, if they are the result of a data capture mistake) and values outside a 'forced' range should be corrected.

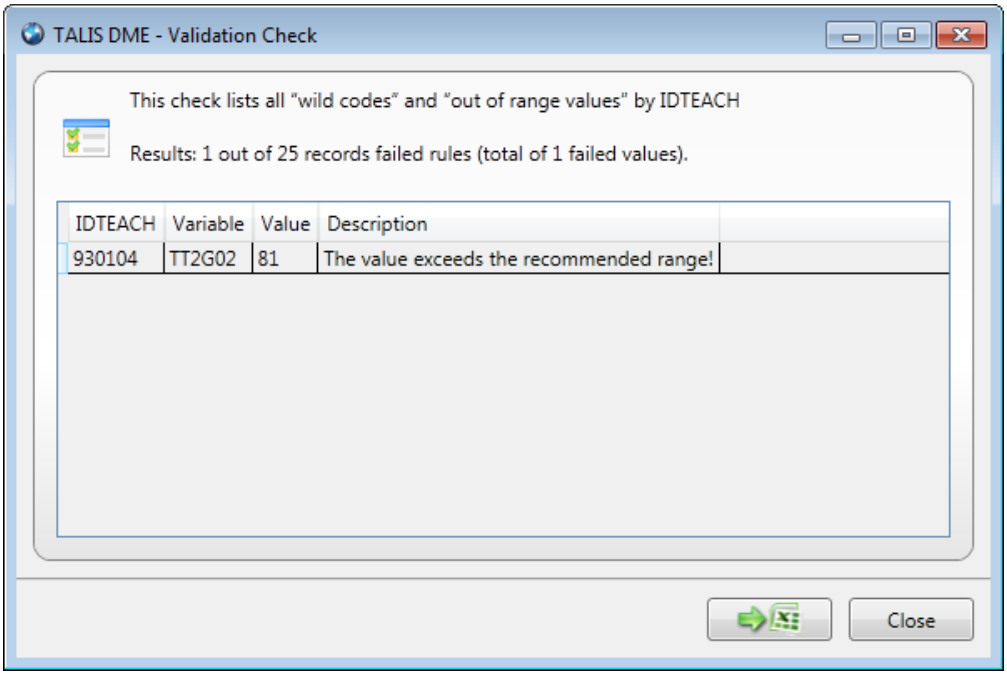


Figure 4-111: Validation check inconsistency for non-categorical variable ('Range Force' is false)

549. Another kind of inconsistency that has to be solved is a value for a categorical variable that is not in either the value or missing scheme. Any inconsistency of this kind has to be corrected.

New

550. For the TALIS 2013 MS it is possible to directly edit values in the validation check output window.

4.6.5 Double data entry check (dataset comparison)

551. One of the overarching goals of TALIS is to generate the most reliable and complete data possible for analysis. The key data entry is a "human" process and errors are possible and, indeed, likely. For this reason, Standard 10.8 requires countries to conduct a double entry of at least 100 non-blank Principal Questionnaires and at least 5% or a minimum of 100 non-blank Teacher Questionnaires. The error rate (number of discrepancies divided by number of data values entered times 100) between the main and the completed double data capture has to be less than 1%.

552. According to the Technical Standards, all data has to be re-entered, if the error rate is 1% or higher. If the error rate is below 1%, errors should only be corrected, if you have double entered all data. If you have double entered only a fraction of your paper questionnaires, not correction of errors should occur.

Table 4-2: Standards for double punching

	Error rate ≥ 1%	**Error rate < 1%**
All data double punched	Retrain punchers and re-enter all data	Correct mistakes
Only 5% of data double punched	Retrain punchers and re-enter all data	Do not correct mistakes, leave "as is"

553. The Consortium expects the manual key data entry to be 100% accurate and NDMs to resolve all identified discrepancies by revisiting the original questionnaires and correcting the concerned values in the DME database.

554. The double punching check compares two datasets. The first dataset is determined by the selected tab in the grid view. The other dataset needs to be selected from those listed in the next window (**Figure 4-112**). The intended comparisons of datasets are the following:

- TCG against TCGD (first against second data entry of Principal Questionnaire)
- TTG against TTGD (first against second data entry of Teacher Questionnaire)
- TTM against TTMD (first against second data entry of Mathematics Teacher Module)

555. The check matches the datasets on IDSCHOOL or IDTEACH and includes all header variables except for IDPUNCH and the IDCHECK. The comparison of those two variables is excluded because values are expected to be different.

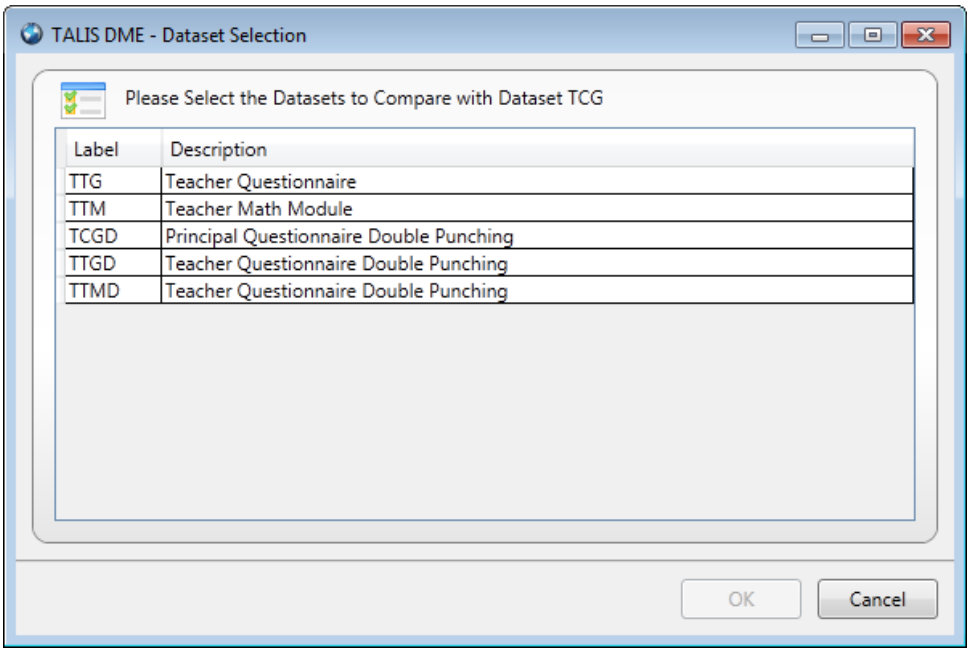


Figure 4-112: Dataset selection for double data entry check

556. The check should be done as early as possible in the process and repeated regularly. It helps in training the punchers, and shows whether they need more training before continuing with data entry.

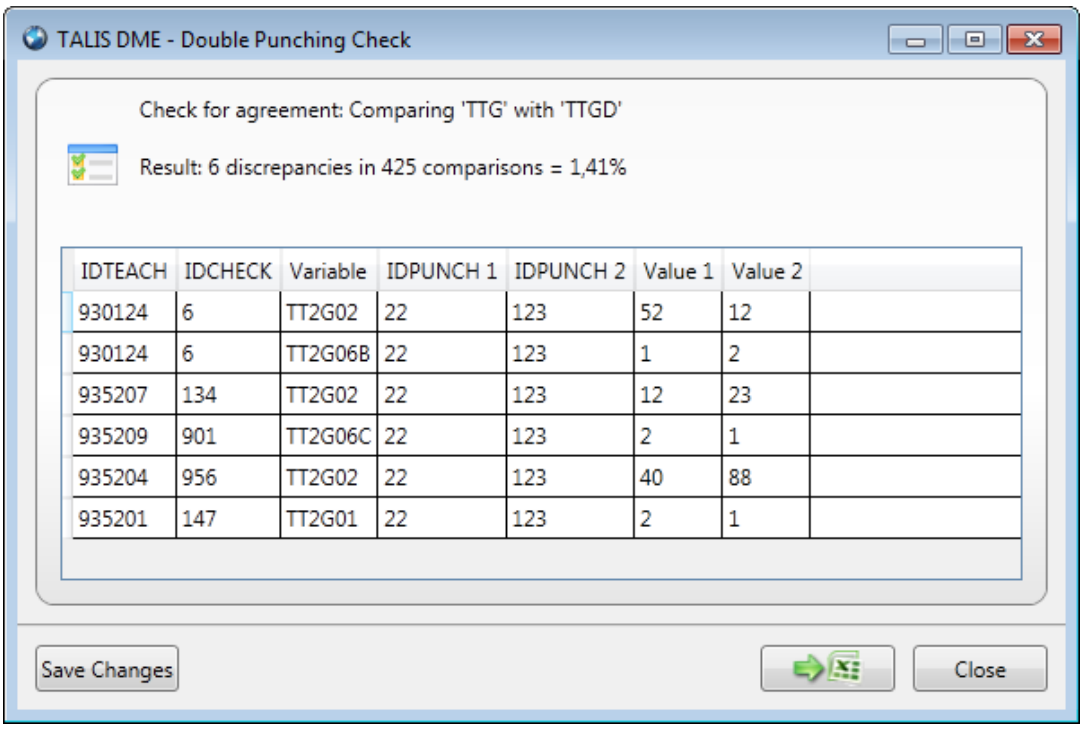
Please Note!

Note that the check only yields meaningful results if both data entry runs are carried out on the same schedule, *e.g.* a single instrument is entered twice within the same day or two.

557. Clearly, it is not helpful to conduct these checks only at a point in time when it is too late, too costly or even impossible to retrain data punchers, correct discrepancies or re-do some or all data entry. Therefore, the Consortium strongly recommends that data entry accuracy be checked by the National Data Manager at least once a week during the data entry process. This will allow the NDM to detect systematic errors and misconceptions about the data entry rules or systematic misconceptions, underperformance or incidental mistakes of individual staff members.

558. In addition, the Consortium recommends that the NDM monitors the accuracy of data entry on a more frequent, preferably daily, basis during the beginning of the manual data entry work.

559. As a result of this check a list is generated containing all discrepancies found in the comparison of the two selected datasets. The IDTEACH/IDSCHOOL, IDCHECK and the IDPUNCH as well as the affected variables and their disagreeing values will be listed per case (Figure 4-113). Additionally the overall percentage of failed comparisons, *i.e.* different values found for the same IDTEACH/IDSCHOOL and variable, is listed.



IDTEACH	IDCHECK	Variable	IDPUNCH 1	IDPUNCH 2	Value 1	Value 2
930124	6	TT2G02	22	123	52	12
930124	6	TT2G06B	22	123	1	2
935207	134	TT2G02	22	123	12	23
935209	901	TT2G06C	22	123	2	1
935204	956	TT2G02	22	123	40	88
935201	147	TT2G01	22	123	2	1

Figure 4-113: Output of the double data entry check

4.6.6 Double coding check

560. This check is not used for the TALIS 2013 Main Study and can be ignored.

4.6.7 Record consistency check

561. This check is not used for the TALIS 2013 Main Study and can be ignored.

4.6.8 Using statistics

562. Using statistics and frequencies should facilitate a basic review of data within DME. Clearly, it does not replace more sophisticated packages or review procedures.

563. The program provides the minimum, maximum, mean, median, variance, 5/25/75/95th percentiles and the sample standard deviation for selected datasets (Figure 4-114).

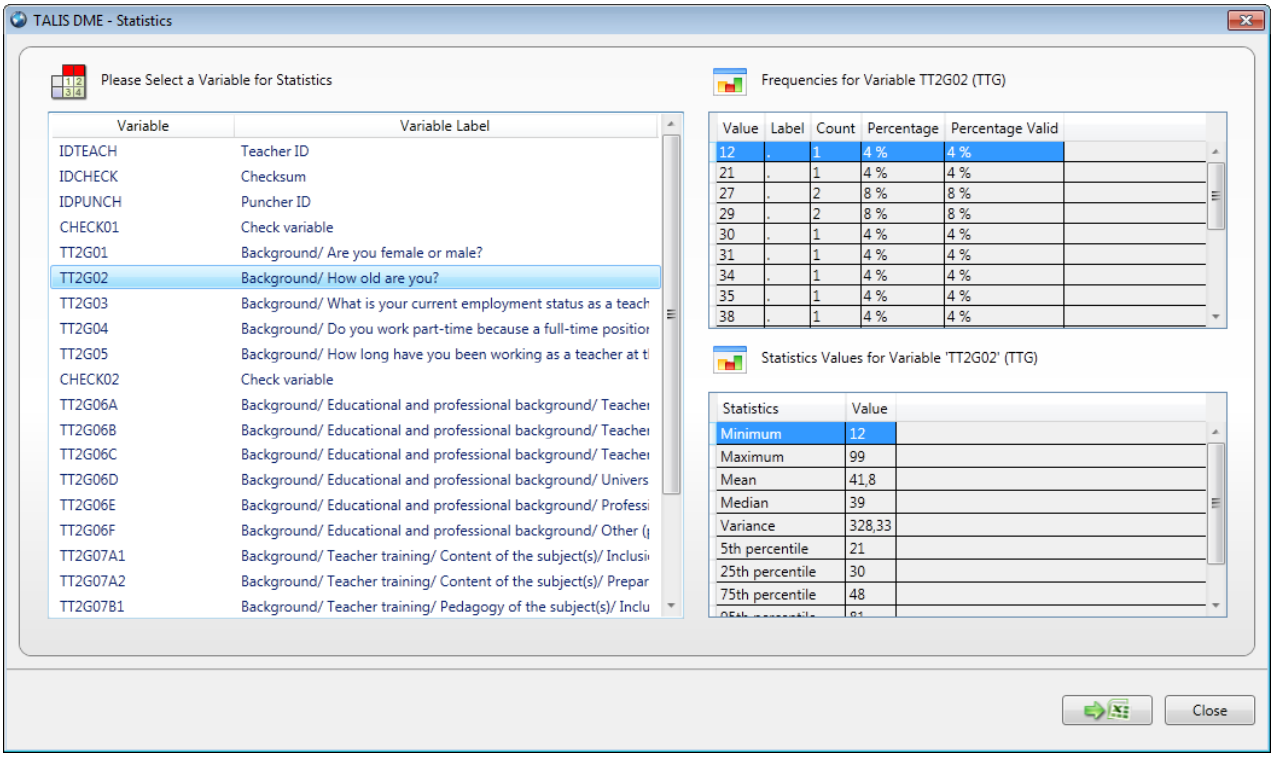


Figure 4-114: Output statistics for a variable

New

564. It is also possible now to view the statistics and variable information as dockable panels next to the datatables. Corresponding to the variable that is selected in the data table, additional information on variables and statistics are displayed. In order to display these dockable panels, select the Variable Info and Variable Statistics from the View menu. Use the X button in the top right corner of each dockable panel to close them.

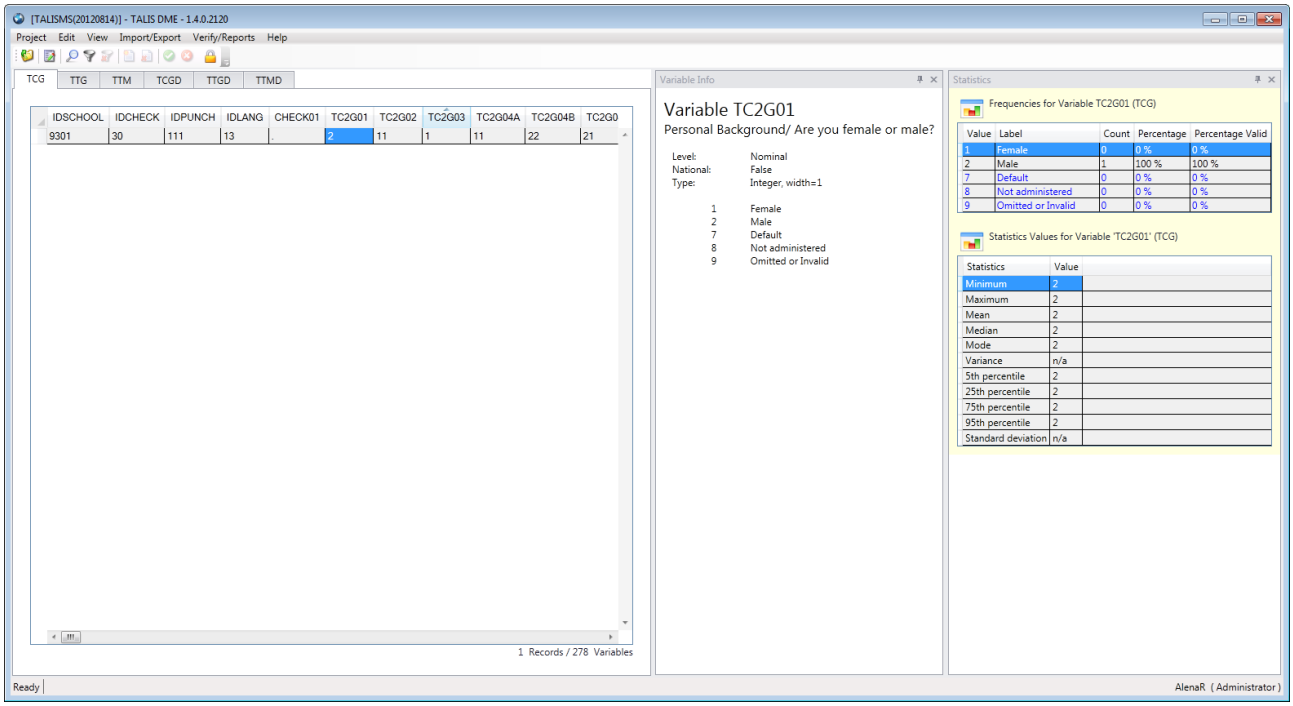


Figure 4-115: Dockable panels

4.6.9 Using crosstabs

565. The program can help the user to review and verify data by cross-tabulating within DME. It might help spotting logical problems such as combinations of values that are not supposed to occur. The options in the dialogue are self-explanatory.

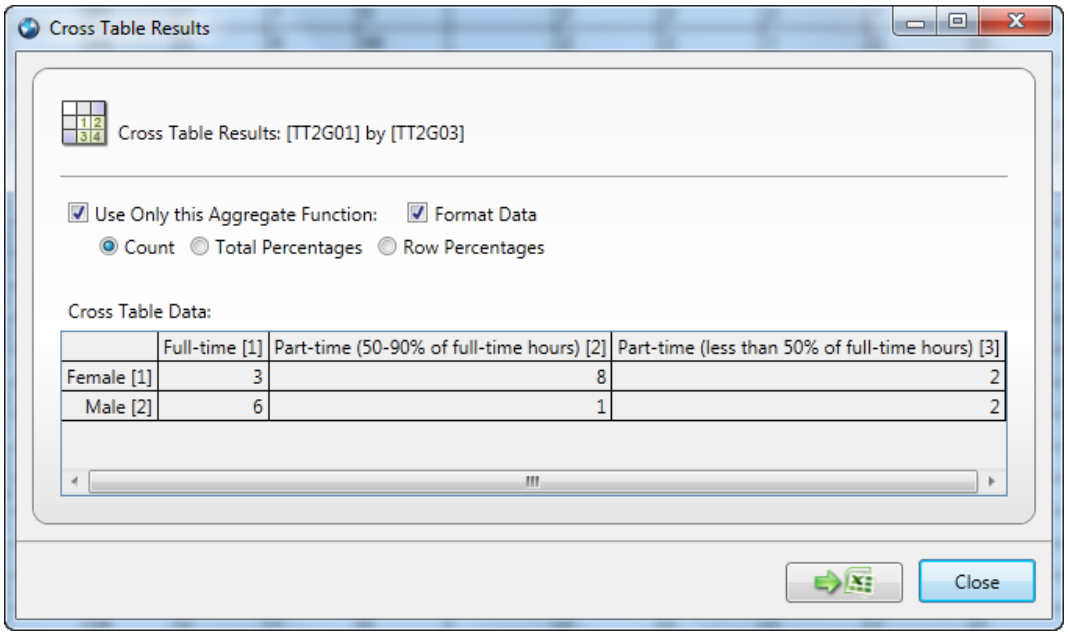


Figure 4-116: Crosstab output

4.6.10 Data cleaning and flow editing

566. Countries are expected to run the checks described so far in this chapter to ensure, as much as possible, that the within-country data capture reflects the values given by the sampled principals and teachers.

567. Countries are not expected to implement any data cleaning or data flow edits on their own prior to the submission of the data. The Consortium will need to assess the magnitude of, for example, outliers, implausible values or implausible combinations of these in order to refine the instruments and/or to identify problems with the translation of questionnaire items.

Please Note!

Countries are not expected to implement any data cleaning prior to submitting their Main Study data.

568. However, countries are free to make corrections to the data that are clearly attributable to data entry mistakes. This is considered to be a part of the data verification and checking.

569. Edits, for instance those dealing with apparent inconsistencies between two or more variables, will be carried out by the Consortium consistently for each participating country.

4.7 Exporting data availability for WinW3S

New

570. To assist you in tracking the availability of data for your respondents, the DME offers an export of all IDs for which data was entered, which you can import to WinW3S. You can find the 'Export to WinW3S' option in the **Import/Export** menu. This will produce an Excel sheet that can be imported to WinW3S and will set the data availability status accordingly for the listed IDs (see section 2.12.4).

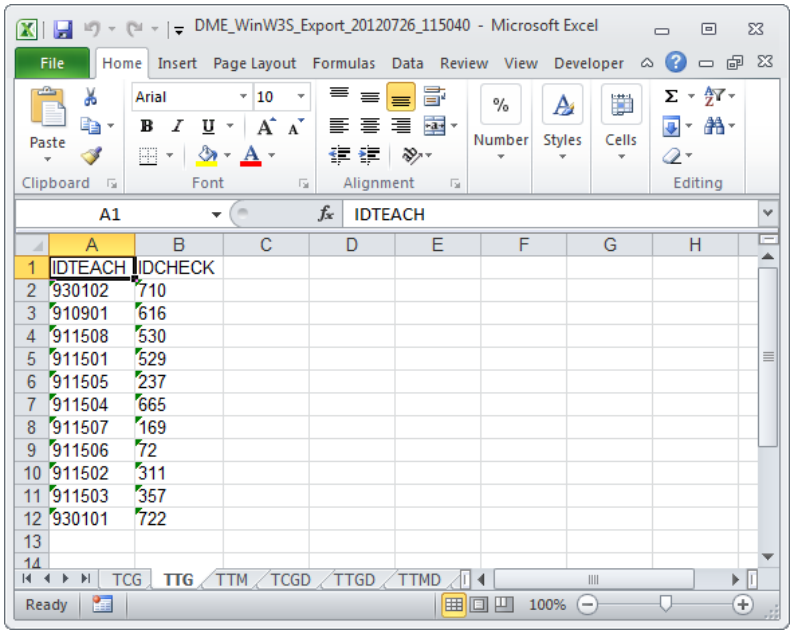


Figure 4-117: Export to WinW3S output

4.8 Exporting a database for submission

571. Exporting a database effectively prepares it for submission.

572. You invoke an export to the Consortium/IEA DPC by simply selecting the corresponding item from the **Import/Export** menu (see Figure 4-118).

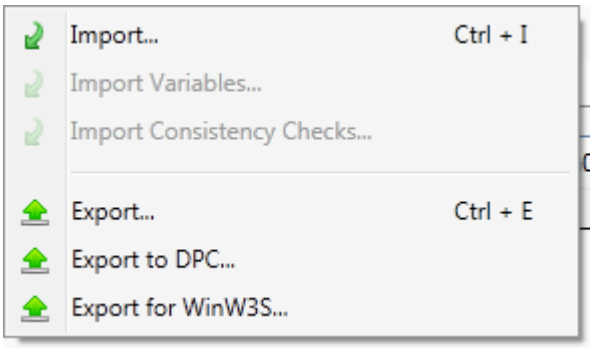


Figure 4-118: Export options in DME

573. On export, the following will happen:

- A copy of the currently open project will be created in the original project's folder. The naming convention for this file is *export_[project name]_YYMMDD-HHMMSS.dme* where [project name] is the name of the currently open project and 'YYMMDD-HHMMSS' represents the date and time of the export. For example, a project named TALIS_FT_ELB_MASTER that is exported on 11 February 2012 at 2:26:15 pm will be called: *export_ TALIS_FT_ELB_MASTER_100212-142615.dme*

- The exported database will be marked as read-only. This means that you can still open the database in the DME software and review its contents and cases after export but that you will no longer be able to make any changes to the contained data. Later changes will have to be applied to the original database, followed by another export.

574. The exported database is the one intended to be submitted to the Consortium. Please do not submit non-exported databases.

4.8.1 Checklist

- ✓ Carry out the "Unique ID check" and the "Validation check" for each dataset on a regular basis, at least once, after all data is imported and integrated.
- ✓ Carry out the "double punching check" between datasets TCG vs. TCGD, TTG vs. TTGD and TTM vs. TTMD, on a regular basis to verify the accuracy of the data entry.
- ✓ Correct all identified discrepancies between the first and second data entries.
- ✓ Use the statistics and crosstab features at your discretion to inspect the data and resolve problems.
- ✓ Provide complete and detailed documentation of any implemented measures as part of the Main Study database submission to the Consortium.

5 SUBMITTING DATA TO THE IEA DPC

5.1 Overview

575. After the Main Study data collection and verification, each country is responsible for submitting the required materials to the TALIS ISC. This chapter describes the required materials, the submission channel, the timeline and the participation in subsequent data processing and cleaning documentation.

5.2 Materials to be submitted

576. The materials to be submitted electronically to the ISC per international option after the Main Study are the following:

- A single (*i.e.*, merged if applicable), integrated, verified, and exported database per country and option in the DME's format and using the adapted national codebooks, that is including all national variables and values (See section 4.7) (upload in folder "5 data" on Sharepoint)
- An exported WinW3S database (see section 2.12.4), (upload in folder "5 data" on Sharepoint)
- The final version of the National Adaptation Forms (final version will be already available in the folder "4 DME verification" after DME verification)
- One paper copy per questionnaires that you actually administered on paper
- If you use paper Teacher Tracking Forms: Paper copies or scans of the Teacher Tracking Forms (no WinW3S printouts!)
- If you use electronic Teacher Tracking Forms: Excel Teacher Tracking Forms (upload in folder "6 other materials" on Sharepoint)
- A weekly update of your participation rates (see paragraph 135) to folder "7 participation rate estimate" as soon as your data collection is begun

5.3 Uploading data and materials to the Consortium

577. The data submission to the Consortium must be made through secure channels. For this purpose, individual document exchange folders have been created for each country on the TALIS Sharepoint server at:

- **https://talis.iea-dpc.org**

5.3.1 Logins

578. Country login details (user names and passwords) have been provided to countries on an individual basis by the IEA DPC.

5.3.2 Folder structure

579. Within each country root folder, the structure is as follows:

- TALIS 2013 Main Study
  - Country exchange
    - TALIS 2013 Main Survey
      - ISCED level
        - 1 translation verification (Step 2)
        - 2 paper layout verification (Step 3)
        - 3 online layout verification (Step 4)
        - 4 DME verification (Step 5)
        - 5 data
        - 6 other materials
        - 7 participation rate estimate

5.3.3 Deadlines and notifications

580. According to the project's timeline, uploads of complete and final materials are required before or on May 31, 2013 (January 2, 2013 for Southern Hemisphere countries). Immediately advise the IEA DPC (talis@iea-dpc.de) of any difficulties in meeting this deadline.

581. In parallel to the upload, please send a notification message to the central project e-mail address at the IEA DPC (talis@iea-dpc.de).

5.4 Participation in data cleaning communication after submission

582. After all materials have been uploaded for your country, the Consortium, or more precisely the IEA DPC, will begin the import and processing of your data.

583. During this process, certain questions may require the attention and feedback of the National Data Manager. According to Standard 3.3., the National Data Manager must be authorised and capable of responding to data queries from the Consortium within one working day if at all possible.

584. Note that given the timeline under which the Main Study and the analysis will be carried out, only severe structural and systematic problems will be addressed during the data processing in June-August of 2013. Case-level problems, such as implausible combinations of responses may be reported and, if necessary, resolved by a cleaning edit defined by the Consortium.

5.5 Checklist

- ✓ Note the materials required to be submitted.
- ✓ Compile materials prior to submission, if necessary from multiple computers.
- ✓ Export the DME and WinW3S databases.
- ✓ Upload materials no later than May 31, 2013 (January 2, 2013 for Southern Hemisphere countries). and notify the IEA DPC.
- ✓ Advise the IEA DPC of any foreseeable difficulties or delays in submitting the national database and documentation as soon as possible.

- ✓ Ensure that data-related questions from the Consortium can be acknowledged and resolved within the stated timeframe.

ANNEX A – DATA ENTRY BATCH HEADER

TALIS Main Study Data Entry Batch Header	
Batch information	
International option in this batch	☐ ISCED Level 1 ☐ ISCED Level 2 ☐ ISCED Level 3 ☐ TALIS PISA Link
Instrument type in this batch:	☐ Principal Questionnaire ☐ Teacher Questionnaire ☐ Mathematics Teacher Module
Language of questionnaires in this batch:	
Data entry batch number:	
Number of instruments in this batch:	
First data entry	
Puncher ID:	
Date:	
Comments:	
Second data entry	
Puncher ID:	
Date:	
Comments:	

ANNEX B – IEA ONLINE SURVEY SYSTEM CULTURE NAMES AND LCIDS

585. The following table lists the culture names (language-country) and the corresponding abbreviation used in the IEA Online SurveySystem. The "LCID", a numerical representation of the culture assigned by Microsoft, will be used to forward respondents to the correct web location. The value in the column labelled "Check digit" will be appended to the LCID to avoid typing errors. The "Login URL" is the URL that will be printed on the cover/instruction pages for the online Principal and Teacher Questionnaires.

Table 5-1: Culture names, English names and LCIDs, used in the Main Study.

Culture name	English Name	LCID	Check digit
ar-AE	Arabic (U.A.E.)	14337	8
en-AE	English (U.A.E.)	20573	7
en-AU	English (Australia)	3081	2
nl-BE	Dutch (Belgium)	2067	5
en-CA	English (Canada)	4105	0
es-CL	Spanish (Chile)	13322	1
cs-CZ	Czech (Czech Republic)	1029	2
da-DK	Danish (Denmark)	1030	4
et-EE	Estonian (Estonia)	1061	8
eu-ES	Basque (Spain)	1069	6
ca-ES	Catalan (Spain)	1027	0
gl-ES	Galician (Spain)	1110	3
es-ES	Spanish (Spain)	3082	3
va-ES	Valencian (Spain)	10271	1
fi-FI	Finnish (Finland)	1035	9
sv-FI	Swedish (Finland)	2077	6
fr-FR	French (France)	1036	0
en-GB	English (United Kingdom)	2057	4
he-IL	Hebrew (Israel)	1037	1
ar-IL	Arabic (Israel)	10371	2
is-IS	Icelandic (Iceland)	1039	3
it-IT	Italian (Italy)	1040	5
ko-KR	Korean (Korea)	1042	7
lv-LV	Latvian (Latvia)	1062	9
es-MX	Spanish (Mexico)	2058	5
ms-MY	Malay (Malaysia)	1086	5
nl-NL	Dutch (Netherlands)	1043	8
nb-NO	Norwegian, Bokmål (Norway)	1044	9
pl-PL	Polish (Poland)	1045	0
pt-PT	Portuguese (Portugal)	2070	9
ro-RO	Romanian (Romania)	1048	3
sv-SE	Swedish (Sweden)	1053	9
en-SG	English (Singapore)	18441	8
sk-SK	Slovak (Slovakia)	1051	7
en-US	English (United States)	1033	7

ANNEX C – IEA ONLINE SURVEYSYSTEM DUMMY IDS

586. This appendix includes dummy login IDs and passwords for ten imaginary schools. Use these IDs for your private evaluation of the SurveySystem. Please note that the IDs listed below are not country/language specific but will work in any available online culture. You may only use the dummy IDs provided here for your own culture(s)! Also note that these IDs will not conflict with any IDs assigned to the actual schools and/or respondents. Records for these IDs will be dropped during data processing.

Table 5-2: Dummy IDs for evaluation of the SurveySystem

Type	ID	Password
Principal	9990	410
Principal	9991	667
Principal	9992	186
Principal	9993	969
Principal	9994	15
Principal	9995	323
Principal	9996	895
Principal	9997	730
Principal	9998	828
Principal	9999	190
Teacher	999001	300
Teacher	999101	56
Teacher	999201	568
Teacher	999301	836
Teacher	999401	860
Teacher	999501	640
Teacher	999601	175
Teacher	999701	466
Teacher	999801	513
Teacher	999901	315