

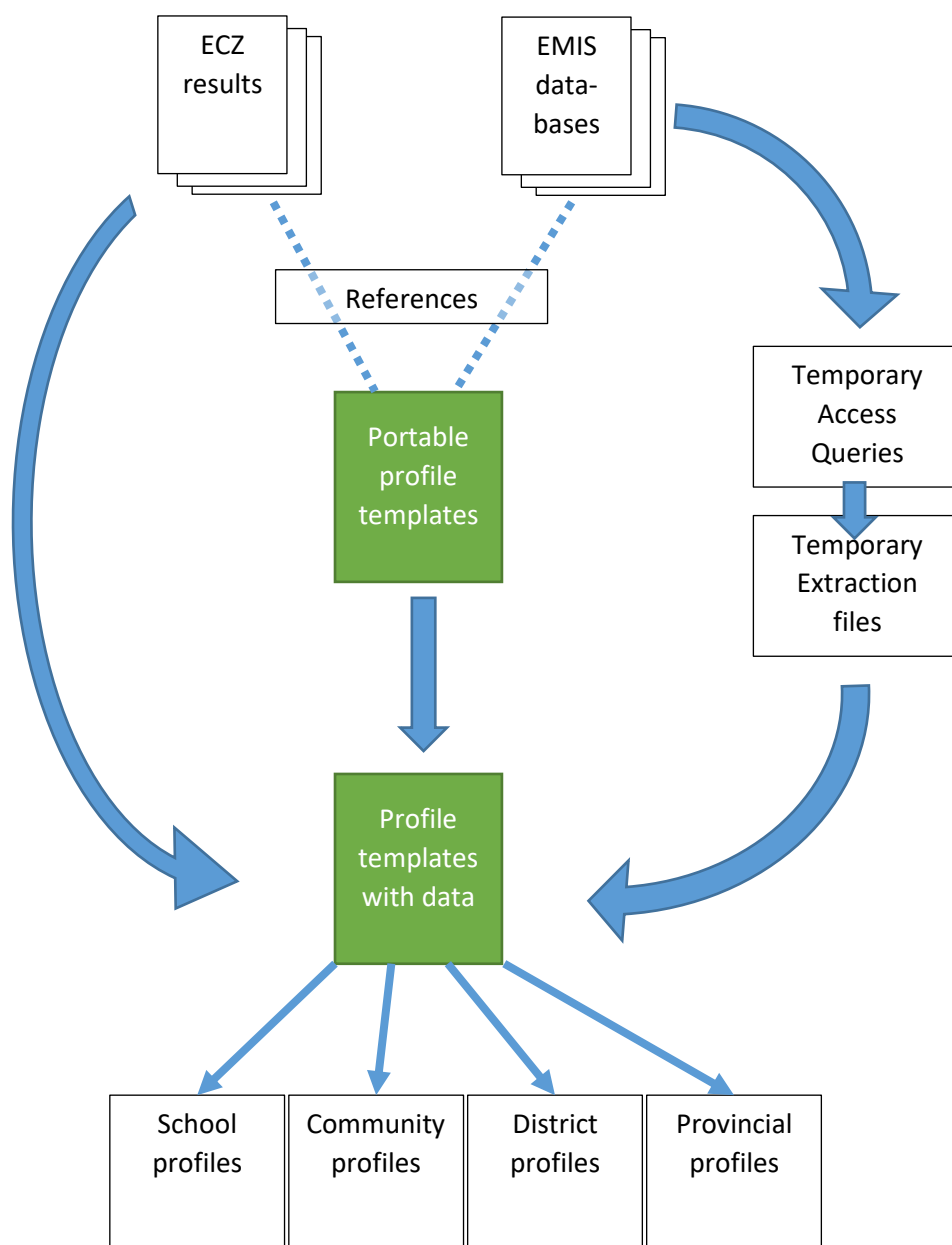
USER MANUAL
for the creation of the
School, Community, District and Provincial Profiles

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1. Working principles

The profile creation file is designed to be a stand-alone portative file and to be linked to EMIS databases and ECZ exam results files every year to produce the profiles.



2. Description

The Portable Profile Templates contains nine visible worksheets¹:

- Two User Interfaces: “Data Import” and “Home”
- One sheets containing the correspondence between EMIS school numbers and ECZ exam centre numbers : “EMIS-ECZ matching”
- Six sheets containing the profile templates and their corresponding calculations.

2.1 “Data import” sheet

The “Data import” sheet is the user interface used to create the references to the EMIS databases and the ECZ exam results files necessary to populate the profiles, and to import the data. For more information about this, please refer to Section 3: *Importing the data*.

2.2 “Home” sheet

The “Home” sheet is the user interface used to generate the profiles, once the data has been imported. For more information about this, please refer to Section 4: *Generating the profiles*.

2.3 “EMIS-ECZ matching” sheet

The “EMIS-ECZ matching” sheet is used by the file to match the data in EMIS with the data in the ECZ exam results files.

The first four columns (Columns A to D) contain the information found in EMIS for each school that was successfully matched (Region, District, Name of the school and EMIS number).

The following three columns (Columns E to G) contain the name of the school as it appears in the ECZ files, followed by its ECZ exam centre numbers. The “old ECZ number” was used until 2015, while the “new ECZ number” has been used since 2016.

The last two columns (Columns H and I) repeat the name of the school and its number from the EMIS databases.

¹ Additional sheets, necessary for the automation to work but which do not require any interaction with the user, are hidden. Information on these can be found in Annex 1.

	A	B	C	D	E	F	G	H	I
1			EMIS information		ECZ information			EMIS information (repeated)	
2	Region	District	Name	EMIS Number	Name	Old ECZ Number	New ECZ Number	Name	Number
3	CENTRAL	CHIBOMBO	MUCHENJE PRIMARY SCHOOL	440	MUCHENJE	7011 070011		MUCHENJE PRIMARY SCHOOL	440
120	CENTRAL	CHIBOMBO	MBOSHVA PRIMARY SCHOOL	4642	MBOSHVA	7014 070014		MBOSHVA PRIMARY SCHOOL	4642
121	CENTRAL	CHIBOMBO	CHIBOMBO PRIMARY	374	CHIBOMBO	7015 070015		CHIBOMBO PRIMARY	374
122	CENTRAL	CHIBOMBO	MUMANGWA PRIMARY SCHOOL	445	MUMANGWA	7016 070016		MUMANGWA PRIMARY SCHOOL	445
123	CENTRAL	CHIBOMBO	KATETE PRIMARY SCHOOL	419	KATETE	7017 070017		KATETE PRIMARY SCHOOL	419
124	CENTRAL	CHIBOMBO	CHIYUNI PRIMARY	390	CHIYUNI	7018 070018		CHIYUNI PRIMARY	390
125	CENTRAL	CHIBOMBO	IPONGO PRIMARY	395	IPONGO	7020 070020		IPONGO PRIMARY	395
126	CENTRAL	CHIBOMBO	SHIMUKUNI PRIMARY SCHOOL	474	SHIMUKUNI	7021 070021		SHIMUKUNI PRIMARY SCHOOL	474
127	CENTRAL	CHIBOMBO	MASHIKILI PRIMARY SCHOOL	434	MASHIKILI	7023 070023		MASHIKILI PRIMARY SCHOOL	434
128	CENTRAL	CHIBOMBO	KEEMBE PRIMARY SCHOOL	422	KEEMBE	7024 070024		KEEMBE PRIMARY SCHOOL	422
129	CENTRAL	CHIBOMBO	KAPOPO PRIMARY SCHOOL	414	KAPOPO	7054 070054		KAPOPO PRIMARY SCHOOL	414
130	CENTRAL	CHIBOMBO	MUTAKWA PRIMARY	455	MUTAKWA	7056 070056		MUTAKWA PRIMARY	455
131	CENTRAL	CHIBOMBO	MUSOKA PRIMARY SCHOOL	453	MUSOKA	7066 070066		MUSOKA PRIMARY SCHOOL	453
132	CENTRAL	CHIBOMBO	MUNTEMBA PRIMARY	448	MUNTEMBA	7069 070069		MUNTEMBA PRIMARY	448
133	CENTRAL	CHIBOMBO	KABILE PRIMARY	399	KABILE	7071 070071		KABILE PRIMARY	399
134	CENTRAL	CHIBOMBO	MOOMBA PRIMARY	438	MOOMBA	7073 070073		MOOMBA PRIMARY	438
135	CENTRAL	CHIBOMBO	MUUNDU PRIMARY SCHOOL	458	MUUNDU	7097 070097		MUUNDU PRIMARY SCHOOL	458
136	CENTRAL	CHIBOMBO	KAFULULU PRIMARY	401	KAFULULU	7111 070111		KAFULULU PRIMARY	401
137	CENTRAL	CHIBOMBO	KALOLA PRIMARY	404	KALOLA	7113 070113		KALOLA PRIMARY	404
138	CENTRAL	CHIBOMBO	KAPILA PRIMARY	413	KAPILA	7114 070114		KAPILA PRIMARY	413
139	CENTRAL	CHIBOMBO	CHIPESO	384	CHIPESO	7117 070117		CHIPESO	384
140	CENTRAL	CHIBOMBO	NAMAYANI PRIMARY SCHOOL	465	NAMAYANI	7123 070123		NAMAYANI PRIMARY SCHOOL	465
141	CENTRAL	CHIBOMBO	MWAYASUNKA PRIMARY SCHOOL	460	MWAYASUNKA	7126 070126		MWAYASUNKA PRIMARY SCHOOL	460
142	CENTRAL	CHIBOMBO	SHIFWANKULA PRIMARY SCHOOL	472	SHIFWANKULA	7127 070127		SHIFWANKULA PRIMARY SCHOOL	472
143	CENTRAL	CHIBOMBO	SHIMBILO PRIMARY SCHOOL	473	SHIMBILO	7138 070138		SHIMBILO PRIMARY SCHOOL	473
144	CENTRAL	CHIBOMBO	MUKALASHI PRIMARY SCHOOL	442	MUKALASHI	7142 070142		MUKALASHI PRIMARY SCHOOL	442
145	CENTRAL	CHIBOMBO	CHITITI PRIMARY	388	CHITITI	7146 070146		CHITITI PRIMARY	388
146	CENTRAL	CHIBOMBO	KALALA PRIMARY	402	KALALA	7148 070148		KALALA PRIMARY	402
147	CENTRAL	CHIBOMBO	MALAMBANYAMA PRIMARY SCHOOL	431	MALAMBANYAMA	7150 070150		MALAMBANYAMA PRIMARY SCHOOL	431

2.4 The profile template sheets

There are six profile templates:

- School: School profiles for schools that are ECZ exam centres
- School (NO ECZ): School profiles for schools that are not ECZ exam centres
- Community: Community profiles for schools that are ECZ exam centres
- School (NO ECZ): Community profiles for schools that are not ECZ exam centres
- District: District profiles
- Province: Provincial profiles

Each template has in the first 19 columns (Columns A to S) the profile themselves, as they will appear when generated, while the following columns contain the calculations and the data used for the table and charts in the profile.

3. Importing the data

3.1 Importing all data

Before the profiles can be generated, the data needs to be imported into the portable profile template file. This operation needs to be done only once every year, when all necessary data is available, in particular, the EMIS data and the ECZ exam results from the last year.

The screenshot shows a web interface titled "Data Import". At the top, there is a table with a header "YEAR" and a single row containing the value "2017". This row is highlighted in green and circled in red, with a red "1" next to it. Below the table, a note says "(This is the year when the profiles are to be distributed)".

Below this, there is a section titled "EMIS data". It contains a paragraph: "Please click on the buttons below to change the reference to the EMIS databases (you will need the ACCESS databases for 2016, 2015 and 2014), then Press 'Import all EMIS data'". Below this paragraph are three buttons: "Select/Change 2016 EMIS data", "Select/Change 2015 EMIS data", and "Select/Change 2014 EMIS data". These three buttons are grouped together and circled in red, with a red "2" next to them.

To the right of these buttons, there are three rows of text: "2016: Please select the file containing the EMIS data for 2016", "2015: Please select the file containing the EMIS data for 2015", and "2014: Please select the file containing the EMIS data for 2014". These rows are highlighted in orange.

Below the EMIS data section, there is a button labeled "Import all EMIS data", which is circled in red and has a red "5a" next to it.

Below the "Import all EMIS data" button, there is a section titled "ECZ data". It contains a paragraph: "Please click on the button below to change the reference to the ECZ reports files (you will need the 'grade distbution by centre' reports for 2016, 2015 and 2014), then click 'Import all ECZ data'". Below this paragraph are three buttons: "Select/Change 2016 ECZ data", "Select/Change 2015 ECZ data", and "Select/Change 2014 ECZ data". These three buttons are grouped together and circled in red, with a red "3" next to them.

To the right of these buttons, there are three rows of text: "2016: Please select the file containing the ECZ data for 2016", "2015: Please select the file containing the ECZ data for 2015", and "2014: Please select the file containing the ECZ data for 2014". These rows are highlighted in orange.

Below the ECZ data section, there are two buttons: "Import all ECZ data" (circled in red with a red "5b" next to it) and "Import all EMIS and ECZ data" (circled in red with a red "4" next to it).

Step 1: Select the year in which the profiles are to be produced and distributed in the green cell (1).

Step 2: Select the databases containing the EMIS data for the last three years using the buttons (2). These are the Microsoft Access databases containing all the EMIS data for those years.

Note: Make sure to select the right database for each of the corresponding years.

Step 3: Select the files containing the **Grade 7** ECZ exam results data for the last three years using the buttons (3). These are the text files usually named by ECZ "grade distribution by centre" containing all the EMIS data for the corresponding years.

Notes: - Make sure to select the right file for each of the corresponding years.

- Make sure to select Grade 7 exam results (and not Grade 9, for instance).

Step 4: Import the data by clicking on the button "Import all EMIS and ECZ data" (4).

The operation can take a few minutes, and it is recommended to not use the computer during that time. For details on the way data is imported, please refer to Annex 2.

Notes: - Once the import is complete, a message box will confirm that the operation was completed. The cells containing the paths to the EMIS databases and ECZ files will then be white, indicating that these files are indeed the origin of the data imported. An additional button will also appear in the top right corner, offering the option to clear all the data imported (cf. below).

- It is possible to import the EMIS data and the ECZ data separately, using the corresponding buttons (5a and 5b). In that case, only the cells containing the path to the files from which the data was imported will turn white.

3.2 Changing the data imported

In case the data imported needs to be changed (with, for instance, a more final version of the EMIS database), it is possible to do so by repeating Steps 2 or 3 above, and then use the corresponding button (5a or 5b) to import the data newly selected.

Note: Once the path to the desired EMIS database or ECZ file is changed, the cell containing its path will turn orange again, indicating that it is not currently the data contained in the file, and that this new data needs to be imported.

3.3 Deleting the data imported

It is possible to delete all the EMIS and ECZ data imported from the file. This will make the file much lighter, and allow its sharing by email, for instance, but it will not be possible to generate the profiles until the data is imported again.

4. Generating the profiles

Generating the profiles is done through the sheet “Home”, which appears as follows:

The screenshot shows the 'Welcome to the School Profile Generator' interface. It features a grid of buttons for generating profiles at different levels: School, Community, District, and Provincial. On the left, there are dropdown menus for selecting a province, district, or school. Annotations 1 through 5 highlight specific features: 1 points to the 'CENTRAL' province selection; 2 points to the 'KAPIRI MPOSHI' district selection; 3 points to the 'BWINGI COMMUNITY - 9235' school selection; 4 points to the 'District profile sets' section, specifically the '1 school profile' and '1 community profile' counts; and 5 points to the radio buttons for 'Group all profiles in one PDF file' and 'Generate profiles in separate PDF files'.

“Generating” the profiles means creating one or several pdf files with the corresponding profiles. These pdf files can then be shared electronically or printed out.

The four types of profiles can be generated:

- School profiles
- Community profiles
- District profiles
- Provincial profile

It is possible to generate

- all profiles of one type:
 - o for the whole country,
 - o for a specific province, selected in the dropdown list (1),
 - o for a specific district, selected in the dropdown list (2),
- the school or community profile for a specific school, selected in the dropdown list (3).
- or district profile sets, which contain, for each district, a number of each type of profile as specified in (4).

For each of these options, it is possible to create one pdf file containing all the profiles generated, or one pdf file per profile, by selecting the corresponding choice in the bullet points (5).

5. Modifying the profiles

Modifying the profile templates should only be done by advanced users. The templates, as well as the other sheets, are protected by password, to avoid inadvertent changes that would compromise the proper functioning of the file.

Three levels of changes can be done, with increasing levels of difficulty:

5.1 Modifying the format of the profile templates

The templates themselves (Columns A to S) can be changed to modify the format of the profiles. A basic knowledge of Excel, charts and formatting is sufficient to do so.

Charts can thus be amended to add labels, change sizes, colours or axis labels. The headers of the various sections and tables can be modified, as well as the layout of the profiles.

5.2 Modifying the indicators using the data already imported

To display additional indicators or change the way current indicators are calculated, the calculations have to be made in the light orange area on the right of the template (Columns T to AZ). Additional tables and charts can also be included in the template, while the calculations have been made on the right hand side section. To do so, a good command of Excel functions is necessary.

To properly make changes in the calculation, it is important to understand the colour coding used in the profile sheets:

- Cells with purple text call data from the imported data sheets. They use an Offset function, referring to the to-left-most cell and using the school (or district, or province) offset value (corresponding to the row that school, district or province appears in the data sheet, minus one) and a column offset to call the proper indicator. A macro can help finding the right indicator (cf. below).
- Cells with blue text are formulas using cells already in the sheet.
- Cells with black text are section and table headers.
- Areas with blue outside borders contain the data used in the charts of the template.
- Areas with blue inside and outside borders contain the data used in the tables of the template.

It is therefore important to trace the cells used in the blue borders areas to make the proper changes. As a general rule, all calculated cells (purple and blue text) are used to produce the tables and charts in the templates, so modifying them will have a direct impact on the content of the template.

To insert a new indicator from the imported data, there are two options:

- Select the cell where you want to insert the indicator and click on the “Insert indicator” button all the way on top (over cells AA1/AB1),
- Or simply double-click on the cell where you want to insert the indicator.

A pop-up box will then appear:

Insert an indicator

Insert an indicator in cell:

\$AG\$3

OK

Type of indicator:

Cancel

Indicator:


☒ School
 ☐ District
 ☐ Province
 ☐ Zambia

You can then select which type of indicator you want to insert (School Information, Enrolment data, Drop Outs, Teachers, Books, Other resources or ECZ indicator), and in the following dropdown list the specific indicator from that data sheet. You also have to specify if you want the value of this indicator at school level, or district, province or country level. If you want to insert an ECZ indicator, you also have to specify the year. The selected cell is then given the formula to return the chosen indicator, for instance:

=OFFSET(SchoolInfo!\$A\$1,schooloffset,7)

In order to check the calculations, it can be helpful to visualize which indicators are called by the formulas. To do so, type the number 1 into the cell Z1. This will call the first row of each data sheet, displaying the column header and thus the name of the indicator returned by each of the purple text cells.

Name of school	MANGELENGELE PRIMARY
Province	LUSAKA
Location Urban/Rural	Rural Area
Address	P.O BOX 48 LUANGWA
Name of Head Teacher	KASEBA MAZINDA



Name of school	school_nam
Province	region_nam
Location Urban/Rural	Location
Address	school_address
Name of Head Teacher	SchoolHeadname

	Pre school	Gr 1	Gr 2	Gr 3	Gr 4	Gr 5	Gr 6	Gr 7
Enrolment	48	56	73	36	42	44	39	32
Boys	20	29	39	20	18	18	26	11
Girls	28	27	34	16	24	26	13	21



	Pre school	Gr 1	Gr 2	Gr 3	Gr 4	Gr 5	Gr 6	Gr 7
Enrolment	Enrolpret	Enrolg1t	Enrolg2t	Enrolg3t	Enrolg4t	Enrolg5t	Enrolg6t	Enrolg7t
Boys	Enrolprem	Enrolg1m	Enrolg2m	Enrolg3m	Enrolg4m	Enrolg5m	Enrolg6m	Enrolg7m
Girls	Enrolpref	Enrolg1f	Enrolg2f	Enrolg3f	Enrolg4f	Enrolg5f	Enrolg6f	Enrolg7f

5.3 Adding indicators not present in the data already imported

To include new indicators that were not already imported from the EMIS databases, there are two options:

- **Insert the additional data sheets manually.**

In that case, the new data will only be available for the current year, and the same operations will have to be repeated the following years. A good command of Excel, tables and function is necessary.

In that case, the inserted data sheet must contain exactly the same schools as the other EMIS data sheets, and in the same order. When calling the data from the template sheet, it is also important that the formula uses an Offset function, referring to the “schooloffset” range (cell Z2), so that the value of the indicator can change appropriately when displaying various schools.

- **Insert the additional data sheets programmatically.**

To insert additional data in a way that it will be imported again the following years, it is necessary to do some programming. To that end, a good command of Microsoft Access and of Visual Basic for Applications (VBA) is required.

To do so, it is recommended to use the temporary Access file generated during the data import as a reference and basis. This file contains all the queries generated, and these can be used to add indicators to the existing queries or replicate the process to create a new data sheet. An important step, in particular, is the junction of the desired table with the query “SchoolListMulti” using the following syntax:

```
SELECT IIf(agglevel>3,"Total",SchoolListMulti.region_nam) AS
region, IIf(agglevel>2,"Total",SchoolListMulti.district_nam) AS
district, IIf(agglevel>1,"Total",SchoolListMulti.code) AS code,
IIf([agglevel]=1,[SchoolListMulti].[school_num],IIf([agglevel]=2,[s
choollistmulti].[region_nam] & "-" &
[schoollistmulti].[district_nam],IIf([agglevel]=3,[schoollistmulti].[reg
ion_nam],"Zambia")))) AS school_num, [...]

FROM SchoolListMulti LEFT JOIN [...]

GROUP BY IIf(agglevel>3,"Total",SchoolListMulti.region_nam),
IIf(agglevel>2,"Total",SchoolListMulti.district_nam),
IIf(agglevel>1,"Total",SchoolListMulti.code),
IIf([agglevel]=1,[SchoolListMulti].[school_num],IIf([agglevel]=2,[s
choollistmulti].[region_nam] & "-" &
[schoollistmulti].[district_nam],IIf([agglevel]=3,[schoollistmulti].[reg
ion_nam],"Zambia"))))
```

This ensures that the same list of schools appears, in the same order, and that the data is aggregated for districts and provinces.

Once the query is designed in Access, its SQL syntax can be used to write the macro which will create it automatically, using the model of the macros in the module “Queries_def”.

Annex 1 – Hidden sheets

The file contains a number of hidden sheets, necessary for its operation, but which do not require any interaction with the user.

- DD Lists : This contains all the drop-down lists used in the file.
- Indicators list: This lists the indicators contained in each sheet, once the data is imported, to facilitate the insertion of new data in the profile templates.
- e1, e2, e3: These are used to preserve the references to the ECZ data sheets when the ECZ data is not imported.
- SS, EE, DD ,TT, BB, RR: These are used to preserve the references to the EMIS data sheets when the ECZ data is not imported (respectively to "SchoolInfo", "Enrolment", "Dropouts", "Teachers", "Books" and "Resources").

Annex 2 – Method of data import

The data import is done in two different ways, for the EMIS and for the ECZ data. All are managed by Excel Visual Basic for Application (VBA) macros.

For the EMIS data, an Access application is opened, and a new database is created, in which queries are created. The macros creating these queries are in the VBA module "Queries_def". These queries are defined to extract data from the three databases defined in the sheet "Data Import". The macros then run the queries and export the results into Excel files. The sheets of these files are then copied into the main file. Then all references to "SS", "EE", "DD", "TT", "BB", "RR" in the profile templates are replaced with respectively "SchoolInfo", "Enrolment", "Dropouts", "Teachers", "Books" and "Resources".

When the data is replaced, the references are changed back to "SS", "EE", "DD", "TT", "BB", "RR", the sheets "SchoolInfo", "Enrolment", "Dropouts", "Teachers", "Books" and "Resources" are deleted, and the import is conducted as described above.

For the ECZ data, each text file is first opened in Excel, using fixed intervals to separate the numbers adequately. Then the file is read systematically, extracting the reference to the school and the numbers and creating a new table with each row representing a school and a subject and containing the number of students for each division. A Pivot Table is then used to transform this table into a new table where each row contains all the data for a school, the results for the various subjects appearing in successive columns. This last table is then copied into the main file as the ECZ data table for that year. Finally, all references to e1, e2 and e3 in the profile templates are replaced with respectively "ECZ 1", "ECZ 2", "ECZ 3".

When the data is replaced, the references are changed back to "SS", "EE", "DD", "TT", "BB", "RR", the sheets "SchoolInfo", "Enrolment", "Dropouts", "Teachers", "Books" and "Resources" are deleted, and the import is conducted as described above.