7.   If you selected the option **Discrete with Analysis Variable(s)** you then select the analysis variable(s) for your analysis.

8.   Select the **Plausible Value** that will be used in this analysis. In our example we will use the overall reading plausible values. When choosing the plausible values, you will have the option to include in your analysis cases in your file that have no plausible values. These will be presented in a category labeled "Not Classified" and these cases will be used in the denominator when calculating percentages. If all cases in your file have plausible values, selecting this option will have no effect in your analysis and results.[23] Leaving this box unchecked will conduct the analysis using only those cases that have plausible values.

9.   Specify the cut points in the distribution. For our example, we will use the PIRLS international benchmarks of achievement: 400, 475, 550, and 625. These numbers need to be typed in increasing order separated by spaces. Click on the **Achievement Benchmarks** field to add them.

10. The weight and variance estimation variables are automatically defined by the software. As this is an example for analysis on student level, the weight TOTWGT is selected by default. For the correct weight and variance estimation variables, please refer to the technical documentation specific to the study.

11. Click on the **Define/Modify** button next to **Output Files** and specify the name of the output files. For our examples we will use the names "CummulativeBenchmarks", "DiscreteBenchmarks" and "DiscretewAnalysisBenchmarks". These filenames will be used to create an SPSS file with the syntax to perform the analysis, a set of SPSS and Excel files with the statistics from the analysis, and the SPSS output file with summary statistics from the analysis. These names will also be used to create and name a new output window with the results from this analysis.

12. Click on the **Start SPSS** button to create the SPSS syntax file and open it in an SPSS syntax window ready for execution. The syntax file must then be executed by opening the **Run** menu of the syntax window and selecting the **All** menu option. Alternatively you can also submit the code for processing with the keystrokes **Ctrl+A** (to select all), followed by **Ctrl+R** (to run the selection). The IDB Analyzer will give a warning if it is about to overwrite an existing file in the specified folder.

As with any analysis involving plausible values, when computing benchmarks of achievement the analyses are conducted separately with each plausible value. The results presented are the average of the results obtained with each plausible value, as described in the technical documentation for the corresponding study.

Figure 19 shows the IDB Analyzer Setup Screen for computing benchmarks, discrete option. Figure 20 shows the SPSS Syntax file created by the IDB Analyzer.

SPSS output obtained from SPSS, Excel files and SPSS files with the results from all 3 sample analysis can be found in the Examples folder.

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[23] This option was originally developed for use with the Problem Solving scale in PIAAC, but is available for all databases.