

Gage Study Setup

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Summary

The *Gage Study Setup* procedure constructs a datasheet with the layout required to perform a repeatability and reproducibility analysis of a measurement system. Such a study involves m appraisers or laboratories, each of which evaluates n parts or samples r times. The setup procedure can be used for either variable or attribute data. Once the study is performed, the measurements or appraisals can be entered into the datasheet and analyzed by other STATGRAPHICS procedures.

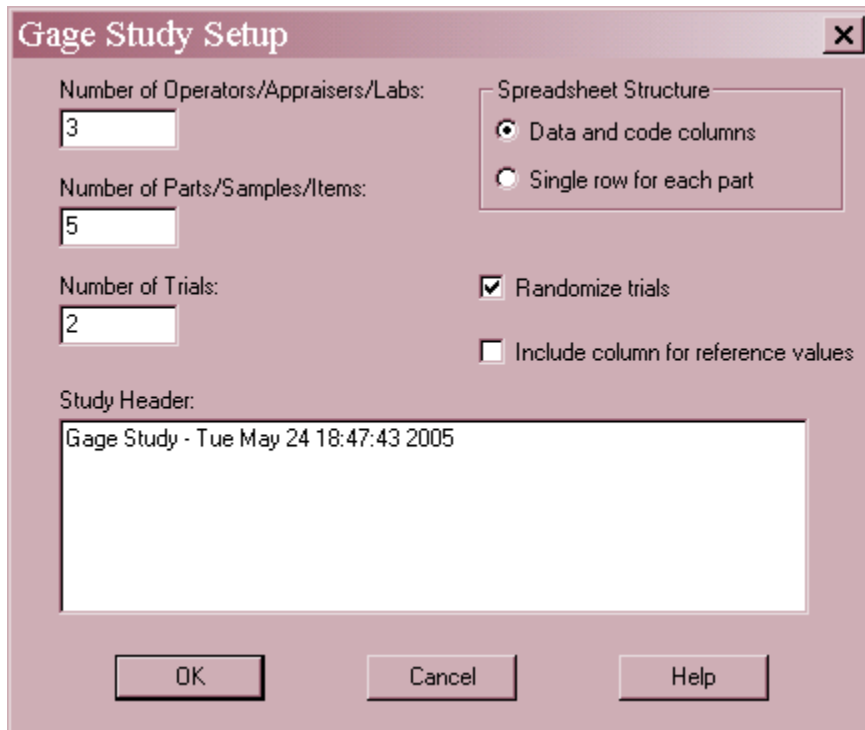
Sample StatFolio: *gagestudy.sgp*

Sample Data:

None.

Data Input

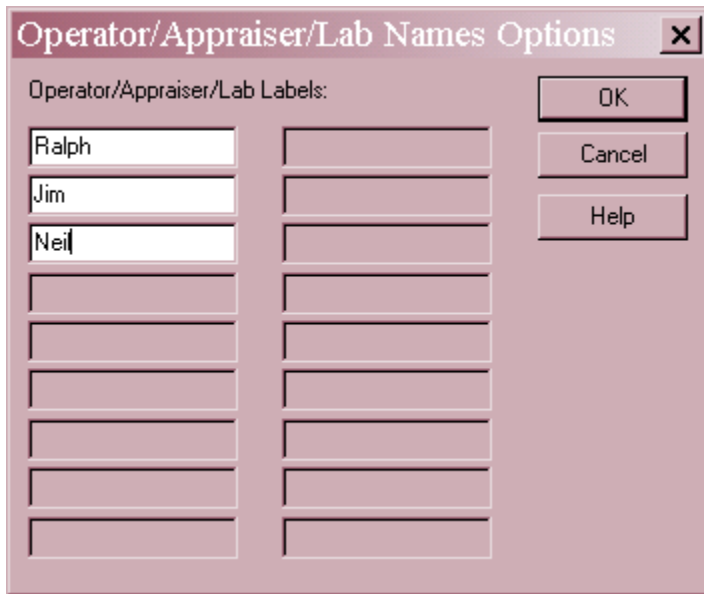
The data input dialog box for this procedure requests various information about the study you wish to perform.



- **Number of Operators/Appraisers/Labs:** the number of different individuals or laboratories that will be evaluating each item, between 2 and 18.

- **Number of Parts/Sample/Items:** the number of different items that will be evaluated, between 2 and 500. Items may be parts or samples from a process.
- **Number of Parts/Sample/Items:** the number of different items each appraiser will evaluate, between 2 and 500.
- **Spreadsheet Structure:** The datasheet may be created in either of two basic formats, depending on your personal preference:
 - *Data and Code Columns:* A separate row will be created for each measurement or appraisal to be made, with separate columns for the measurements, appraiser names, and item identifiers.
 - *Single Row for Each Part:* In this format, all measurements for the same item or part will be placed in a single row. Enough columns will be created to hold the data from all operators and trials on each item.
- **Randomize trials:** If checked, the order of the items in the datasheet will be randomized. Otherwise, the items are listed in sequential order in the datasheet.
- **Include column for reference values:** If checked, an additional column will be added to the datasheet to contain the known reference values for each part.
- **Study Header:** a header to appear at the top of each page when the study is analyzed.

After the first dialog box is completed, a second dialog box will be displayed in which to indicate names for the appraisers or laboratories.



- **Operator/Appraiser/Lab Labels:** enter names to be associated with each individual or location involved in the study.

After this dialog box is completed, the study will be constructed and placed into the STATGRAPHICS datasheet. You should then save the data file.

Analysis Summary

The *Analysis Summary* summarizes the study that was created.

<p><u>Gage R&R - Data Setup</u> Gage Study - Sat Jun 11 10:18:26 2005 Number of operators/appraisers/labs: 3 Number of parts/samples/items: 10 Number of trials: 3</p>
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If the *Operator and Code Columns* format was selected, columns will be constructed containing operator labels, part numbers, and trial numbers. A fourth column will be left blank for the results.

<i>Operators</i>	<i>Parts</i>	<i>Trials</i>	<i>Measurements</i>
Ralph	3	1	
Ralph	4	1	
Ralph	2	1	
Ralph	5	1	
Ralph	1	1	
Ralph	5	2	
Ralph	3	2	
Ralph	1	2	
Ralph	4	2	
Ralph	2	2	
Jim	3	1	
Jim	2	1	
Jim	5	1	
Jim	1	1	
Jim	4	1	
Jim	3	2	
Jim	1	2	
Jim	4	2	
Jim	2	2	
Jim	5	2	
Neil	5	1	
Neil	4	1	
Neil	2	1	
Neil	1	1	
Neil	3	1	
Neil	3	2	
Neil	1	2	
Neil	5	2	
Neil	4	2	
Neil	2	2	

If the *Single Row for Each Part* format was selected, columns will be constructed for each operator and trial. The measurements or appraisals should be entered into the indicated cells.

<i>Parts</i>	<i>Ralph_1</i>	<i>Ralph_2</i>	<i>Jim_1</i>	<i>Jim_2</i>	<i>Neil_1</i>	<i>Neil_2</i>	<i>Measurements</i>
5							
2							
4							
3							
1							

Notes

1. The default column names (“Operators”, “Parts”, etc.) are determined by the settings on the *Gage Studies* tab of the *Preferences* selection on the *Edit* menu. Those settings also affect the terminology used by the gage study analysis procedures. If necessary, you can rename the columns of the datasheet after it has been created.
2. If *Randomized* was selected, the order of the items will be randomized. In the *Operator and Code Columns* format, this is done separately for each trial and each operator.