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| **Data Analysis** |
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| **Setting:** | Seminar, class size approximately of 30 - 40.  |
| **Preparation duration:** | 35 - 45 minutes. |
| **Level:** | Levels 4 - 7 |
| **Activity duration:** | 45 - 50 minutes. |
| **Additional guidance:** | Lecturer can refer to one published blank questionnaire. |
| **Outcomes:** * Identify the two types of data analysis (Quantitative & Qualitative).
* Explain Descriptive Statistics.
* Explain Inferential Statistics.
* Students will list different graphical representations of data.
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| **Pre-task preparation:** * There are two general types of statistics (i.e. Descriptive Statistics and Inferential Statistics).
* Descriptive Statistics (methods used to summarise and describe your observations).
* Inferential Statistics (methods used to make estimations or predictions from our observations).
* There are two distinct methods to summarise data (measures of central tendency and measures of spread).
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**Steps to implement the activity:** 1. Set the learning objectives of the session.
2. Show the flowchart of the Summary Statistics (see Resource 1).
3. Ask students the definition of averages.
4. Give students the opportunity to suggest the definition of the three averages.
5. Show the flowchart of the averages (see Reference 2).
6. Ask students the definition of measure of dispersion or spread.
7. Encourage students to remember the definitions of the spread.
8. Show the flowchart of the spread (see Reference 3).
9. Comment on students’ answers and recap.

**Guidance** **On data sources?**There are two types of data sources primary and secondary.. * + **Primary data source** are Questionnaire/Survey, Observations, Interview and Documents Consultation. Data belongs to the person or team who are collecting it, and using it afterwards.
	+ **Primary data source** usually provided or the data is collected from the field, labs, from published documents or available on-line. Data belongs to another person or third party.
	+ The Resource 4 shows the data sources flowchart.

**References**1. The Higher Education Academy, *Guide to Statistics: Supporting Statistics in Medicine*. [https://www.sheffield.ac.uk/polopoly\_fs/1.43825!/file/Supporting-statistics.pdf](https://www.sheffield.ac.uk/polopoly_fs/1.43825%21/file/Supporting-statistics.pdf)
2. Greenhalgh, T. (2014). Statistics for the non-statistician in *How to read a paper: The Basics of Evidence-Based Medicine*, 5th ed. John Wiley & Sons Ltd., pp. 60 – 77; 2nd edition open access <https://www.ebcp.com.br/simple/upfiles/livros/001HTRP.pdf>
3. Rowntree, D. (2018) *Statistics without tears: an introduction for non-mathematicians.* 4th ed. London: Penguin Books.
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