

## **A Comparative Educational Study of Statistical Inference**

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In his “Comparative Statistical Inference”, Vic Barnett (1982) investigated the various approaches towards statistical inference from a mathematical and philosophical perspective. Isolated endeavours to elaborate on various approaches towards statistical inference for teaching have been seen since Barnett’s monograph.

A comparative statistical inference from an educational perspective seems to be overdue. We will give an overview of different teaching approaches related to various schools of statistics or related to various attempts to simplify the concepts. The aim of the investigation is to highlight and compare their relative merits and disadvantages as a consolidation piece to guide further projects on teaching inferential statistics.

We will elaborate on the mathematical model involved, the key concepts and their interpretation, the philosophical objections, the pitfalls and educational difficulties. Especially we will discuss strategies from the educational perspective that may enhance the key concepts.

Finally we will try to link inferential statistics for teaching to the process of empirical research going back to the programme of Wild & Pfannkuch (1997), thus linking statistical inference to statistical thinking.

**Key Words:** Errors and pitfalls, schools of probability, statistical thinking, statistics education.